Tania Babina

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742 Kravis Hall, 665 W 130th St ◇ New York, NY 10027
TaniaBabina.com ◇ SSRN ◇ LinkedIn ◇ Twitter ◇ tania.babina@gsb.columbia.edu

ACADEMIC POSITIONS

Assistant Professor, Columbia Business School, Columbia University *July 2016*
Division of Finance

AFFILIATIONS

NBER; Labor and Finance Group; Economists for Ukraine

EDUCATION

University of North Carolina, Chapel Hill *2011 to 2016*
Ph.D. in Finance, Kenan-Flagler Business School

M.Sc. Finance, the University of Alabama *2008*
B.A. Economics, National Technical University KhPI, Kharkiv, Ukraine, *Summa Cum Laude* *2005*

RESEARCH INTERESTS

Main research areas: Corporate Finance, Innovation and Entrepreneurship, Labor and Finance

My research broadly focuses on the topics of innovation and labor, and their intersection. I study the drivers of innovation, entrepreneurship and technological change and their economic impact on firms and workers.

PUBLISHED AND FORTHCOMING PAPERS * presented by co-author; (*) To be presented

1. Destructive Creation at Work: How Financial Distress Spurs Entrepreneurship. ***The Review of Financial Studies, 2020***

- AFA; EFA; Tel Aviv Finance Conference; Economics of Entrepreneurship and Innovation Conference; Mitsui Labor and Finance Symposium; Finance, Organizations & Markets Conference (FOM); Columbia Macro Lunch; Annual Meetings of the Society of Labor Economics (SOLE); Labor and Finance Group meeting; selected for presentation at the Colorado Finance Summit/PhD session; Carnegie-Mellon University; Berkeley; Columbia; Cornell; Federal Reserve Board, Georgetown; Ohio State; Stanford; University of Colorado; University of Maryland; University of Minnesota; University of North Carolina; University of Texas–Dallas; University of Toronto

Using U.S. Census firm-worker data, I document that firms' financial distress has an economically important effect on employee departures to entrepreneurship. The impact is amplified in the high-tech and service sectors, where employees are key assets. In states with enforceable noncompete contracts, the effect is mitigated. Compared to typical entrepreneurs, distress-driven entrepreneurs are high-wage workers who found better firms, as measured by jobs, pay, and survival. Startup jobs compensate for 33% of job losses at the constrained incumbents. Overall, the financial inability of incumbent firms to pursue productive opportunities increases the reallocation of economic activity into new firms.

2. Heterogeneous Taxes and Limited Risk Sharing: Evidence from Municipal Bonds. ***The Review of Financial Studies, 2021***, with Pab Jotikasthira (SMU), Chris Lundblad (UNC), Tarun Ramadorai

(Imperial)

- AFA*; EFA*; the Brandeis Municipal Finance Conference*; Adam Smith Workshops in Asset Pricing and Corporate Finance*; SFS Finance Cavalcade*; Cornell University*; Federal Reserve Board*; Georgetown University*; George Washington University*; Georgia State University*; Hong Kong University of Science and Technology*; Lehigh University*; London Business School*; Ohio State University*; Rice University*; Southern Methodist University*; University of Georgia*; University of Houston*; University of Nebraska*; UNC*; University of Rochester*; University of Washington*; and Virginia Tech*.
- James A. Lebenthal Memorial Prize for Best Paper at the Fourth Annual Municipal Finance Conference

We evaluate the impacts of tax policy on asset returns using the U.S. municipal bond market. In theory, tax-induced ownership segmentation limits risk-sharing, creating downward-sloping regions of the aggregate demand curve for the asset. In the data, cross-state variation in tax privilege policies predicts differences in in-state ownership of local municipal bonds; the policies create incentives for concentrated local ownership. High tax privilege states have muni bond yields that are more sensitive to variations in supply and local idiosyncratic risk. The effects are stronger when local investors face correlated background risk and/or diminishing marginal non-pecuniary benefits from holding local assets.

3. Financial Disruptions and the Organization of Innovation: Evidence from the Great Depression. ***The Review of Financial Studies, 2023***, with Asaf Bernstein (Colorado) and Filippo Mezzanotti (Northwestern)

- AFA; WFA*; EFA*; NBER Productivity, Innovation and Entrepreneurship; NBER SI American History; NBER Innovation Data; Barcelona Summer Forum*; IMF 4th Annual Macro-Financial Research Conference; FIRS*; the WEFI; Virtual Economic History Seminar; Hass School of Business*; Stanford University*; Northwestern University Economic History Festival*; University of Virginia; WFA (AFFECT); Labor and Finance conference in Chicago; Michigan State University Conference; Minnesota junior conference; HEC Entrepreneurship Conference*; UT Dallas Conference*; University of Auburn*; University of Colorado*; the Third Junior Entrepreneurial Finance and Innovation Workshop*; the HKUST finance seminar*; Owen Graduate School of Management; Rutgers University*; the Tuck School of Business
- Early iteration of this project received the Best Paper Award from the China International Conference in Finance (CICF)

We examine innovation following the Great Depression using data on a century's worth of U.S. patents and a difference-in-differences design that exploits regional variation in the crisis severity. Harder-hit areas experienced large and persistent declines in independent patenting, mostly reflecting the disruption in access to finance during the crisis. This decline was larger for young and inexperienced inventors and lower-quality patents. In contrast, innovation by large firms increased, especially among young and inexperienced inventors. Overall, the Great Depression contributed to the decline in technological entrepreneurship and accelerated the shift of innovation into larger firms.

4. Cutting the Innovation Engine: How Federal Funding Shocks Affect University Patenting, Entrepreneurship, and Publications. ***The Quarterly Journal of Economics, 2023,*** with Alex Xi He (University of Maryland), Sabrina Howell (NYU), Elisabeth Perlman (U.S. Census Bureau), Joseph Staudt (U.S. Census Bureau)

- AEA*; NBER Productivity, Innovation and Entrepreneurship; NBER SI Science of Science Program*; NBER SI Laor/Education*; NBER productivity seminar*; UC Berkley; Duke's Fuqua School of Business; Barcelona Summer Forum*; MIT; NYU*; Virtual Finance in the Cloud Conference*; NSF SI Future of IP conference*; APPAM*, EPFL Innovation Seminar*; the AIEA Seminar series*; SEA*
- NYU Stern Yuki Arai Faculty Award for Best Paper in Finance 2020

This paper studies how federal funding affects the innovation outputs of university researchers. We link person-level research grants from 22 universities to patents, publications, and career outcomes from the U.S. Census Bureau. We focus on the effects of large, idiosyncratic, and temporary cuts to federal funding in a researcher's pre-existing narrow field of study. Using an event study design, we document that these negative federal funding shocks reduce high-tech entrepreneurship and publications, but increase patenting. The lost publications tend to be higher quality and more basic, while the additional patents tend to be lower quality, less general, and

more often privately assigned. These federal funding cuts lead to an increase in private funding, which partially compensates for the decline in federal funding. Together with evidence from industry-university contracts, the results suggest that federal funding cuts shift university research funding from federal to private sources and lead to innovation outputs that are less openly accessible and more often appropriated by corporate funders.

5. Entrepreneurial Spillovers from Corporate R&D. Forthcoming at ***the Journal of Labor Economics*****,** with Sabrina Howell (NYU)

· WFA; AEA*; NBER Corporate Finance; Texas Finance Festival*; Southern California Private Equity Conference*; Five-Star NYU; Stanford Financing of Innovation Summit; LBS Summer Symposium; UW Summer Finance Conference; Yale Junior Conference; WFA-AFFECT*; Duke*; Columbia; Junior Entrepreneurial Finance and Innovation Workshop*; Center for Economic Studies - Census Bureau; CEAR*; Northwestern*; NYU WAPFIN (Women Assistant Professors in Finance)

This paper offers the first study of how changes in corporate R&D investment affect labor mobility. We document that increases in firm R&D have no measurable effect on employee mobility to other incumbent firms or on exit from employment, but do spur employee departures to join the founding teams of startups. These startups are more likely to be outside the R&D-investing employer's industry, suggesting that the ideas moving via employees to startups would impose diversification costs on the parent. These startups also likely generate substantial spillover benefits, as they are more likely to be VC-backed, high-tech, and high-wage.

6. Artificial Intelligence, Firm Growth, and Product Innovation. Accepted by ***the Journal of Financial Economics***, with Anastassia Fedyk (University of California), Alex He (University of Maryland), James Hodson (Cognism)

· AFA; NBER Corporate Finance; NBER Economics of AI; NBER SI Macroeconomics and Productivity*; NBER Innovation Data; NBER productivity seminar; EFA; FIRS*; FOM Conference*; Labor and Finance Group Conference*; Society of Labor Economics*; Society for Economic Dynamics*; Northwestern; NYU*; WashU; Emory; Atlanta Fed; Federal Reserve Digitization Collab Week; Richmond Federal Conference "Secular Trends in Macroeconomics and Firm Dynamics"; Tulane; Georgia State University; Michigan State University; University of Oklahoma; Triangle Macro-Finance Workshop; Tilburg University; Triangle Macro-Finance Workshop; Queen Mary University of London; AFFECT*; NYU WAPFIN (Women Assistant Professors in Finance)*; UNC Junior Roundtable*; Sao Paulo School of Economics*; UC Berkeley*; University of Illinois Chicago*; University of Maryland*; Vienna Graduate School of Finance*; Frontiers in Economics for Ukraine; Colloquium on The Peril and Promise of Artificial Intelligence (AI) for Corporations

We study the use and economic impact of artificial intelligence (AI) technologies among U.S. firms. We propose a new measure of firm-level AI investments, using a unique combination of detailed worker resume and job postings datasets. Our measure reveals a stark increase in AI investments across sectors in the last decade. AI-investing firms see higher growth in sales, employment, and market valuations. We use a novel identification strategy, instrumenting firm-level AI investments with firms' ex-ante exposure, based on alumni networks, to the supply of AI-skilled labor from universities historically strong in AI research. The positive growth effect of AI comes primarily through increased product innovation, reflected in trademarks, product patents, and updates to product portfolios. AI-powered growth concentrates among the ex-ante largest firms, leading to higher industry concentration and reinforcing winner-take-most dynamics. Our results highlight that new technologies can contribute to growth through product innovation.

7. Firm Investments in Artificial Intelligence Technologies and Changes in Workforce Composition. Forthcoming in ***the NBER Volume on Technology, Productivity, and Economic Growth***, with Anastassia Fedyk (University of California), Alex He (University of Maryland), James Hodson (Cognism)

· WFA; AEA*; NBER CRIW Conference on Technology, Productivity, and Economic Growth; Labor and Finance Conference; Stanford University Digital Innovation Lab*; Federal Reserve Digitization Collab Week; Richmond Federal Conference "Secular Trends in Macroeconomics and Firm Dynamics"; the Jozef Stefan Institute Artificial Intelligence Lab*; Yeshiva University

We study the shifts in U.S. firms' workforce composition and organization associated with the use of AI technologies. To do so, we leverage a unique combination of worker resume and job postings datasets to measure firm-level AI investments and workforce composition variables, such as educational attainment, specialization, and hierarchy. We document that firms with higher initial shares of highly-educated workers and STEM workers invest more in AI. As firms invest in AI, they tend to transition to more educated workforces, with higher shares of workers with undergraduate and graduate degrees, and more specialization in STEM fields and IT and analysis skills. Furthermore, AI investments are associated with a flattening of the firms' hierarchical structure, with significant increases in the share of workers at the junior level and decreases in shares of workers in middle-management and senior roles. Overall, our results highlight that adoption of AI technologies is associated with significant reorganization of firms' workforces.

8. Friends during Hard Times: Evidence from the Great Depression. Forthcoming at ***the Journal of Financial and Quantitative Analysis***, with Diego Garcia (Colorado), Geoff Tate (Maryland)

- AEA; EFA; Olin's 14th Annual Conference on Corporate Finance; LBS Summer Finance Symposium ; FIRS; Financial Institutions, Regulation & Corporate Governance (FIRCG) Conference*; Spring Finance Conference at the UT-Dallas*

Using a novel dataset of over 3500 public and private firms, we construct the network of firm connections through executives and directors on the eve of the 1929 financial market crash. We find that more connected firms have 17% higher 10-year survival rates on average. Consistent with a role in facilitating access to working capital, the results are particularly strong for small firms, private firms, cash-poor firms, and firms located in counties with high bank suspension rates during the crisis. Moreover, connections to cash-rich firms that increase their accounts receivable during the peak of the crisis are most important for survival. Our results suggest that network connections can play a stabilizing role during a financial crisis by easing the flow of capital to constrained firms.

WORKING PAPERS

9. Information Access and Innovation: Evidence from Open Banking. Revision requested by ***the Journal of Financial Economics***, with Greg Buchak (Stanford) and Will Gornall (UBC)

- AFA (scheduled); NBER SI Corporate Finance; EFA; NFA; NBER Economics of Privacy Conference; FIRS; Barcelona Summer Forum*; Stanford*; Columbia; the Wharton School of the University of Pennsylvania; Stockholm School of Economics; Universidad Carlos III de Madrid; USC*

Open banking is the trend of empowering customers to share their banking data with fintechs and other banks. We compile a novel dataset documenting that governments in 49 countries have implemented open banking policies and 31 more are in active discussions. Following adoption, fintech venture capital investment increases by 50%, with more comprehensive policies showing larger effects. We examine the policy tradeoffs with a quantitative model of consumer data production and usage. Our calibrations show that customer-directed data sharing increases entry by improving entrant screening ability and product offerings, but harms some customers and can reduce ex-ante information production.

10. IPOs, Human Capital, and Labor Reallocation. Revision requested by ***the Journal of Financial and Quantitative Analysis***, with Paige Ouimet (UNC), Rebecca Zarutskie (Board)

- AFA; NBER Entrepreneurship; Texas Finance Festival; Columbia; SEC; Tuck Private Equity and Entrepreneurship Research Conference; Cavalcade; HBS-Entrepreneurship; Changing Role of Stock Markets in Capital Formation - NYU*; Annual Meetings of the Society of Labor Economics (Seattle)*; Darden & Cambridge Judge Entrepreneurship and Innovation Research Conference*

We examine the human capital of IPO-filing firms and how going public affects their labor force. IPO-filing firms have high average wages and limited industrial diversification. Moreover, we document that a successful IPO increases departures of high-skilled employees to startups and diversification though employment growth in non-core industries. While IPOs do not significantly affect earnings growth of pre-IPO workers, post-IPO hires receive larger earnings increases upon joining. These results are most consistent with agency mechanisms

associated with the transition to public ownership. Overall, going public has significant implications for the firms' overall labor force, the firm, and labor reallocation.

11. Impact of Money in Politics on Labor and Capital: Evidence from Citizens United v. FEC, with Pat Akey (Toronto), Greg Buchak (Stanford), Ana-Maria Tenekedjieva (Fed Reserve Board)

- WFA; AFA*; EFA*; CICF*; WFA (AFFECT); ASU*; Labor and Finance Online Seminars*; Columbia Women Economists Seminar series; Erasmus University in Rotterdam; Entrepreneurship Junior Group Online Seminars; Maastricht University; University of Bristol; University of Lugano; University of Luxembourg; Stanford*; UBC

The perceived increase in corporate political influence has raised concerns that corporations push to enact policies that benefit capital and harm labor. We examine whether corporate money in politics benefits capital and hurts labor using the 2010 Supreme Court ruling *Citizens United*, which rendered bans on political election spending unconstitutional. In difference-in-difference analyses, states with newly overturned bans experience increases in both capital *and* labor income relative to states without bans. We find evidence consistent with increased political spending spurring political competition. This leads to policies that benefit a broader set of constituents compared to alternate forms of political influence like lobbying. Affected states see increased political turnover and reduced regulatory burdens. The economic effects are stronger among ex-ante politically inactive firms.

12. Does Antitrust Enforcement Affect Firm Entry? Evidence from 40 Years of US DOJ Lawsuits, with Simcha Barkai (BC), Jessica Jeffers (Chicago), Ezra Karger (Chicago Fed), and Ekaterina Volkova (U Melbourne)

- NBER SI CRIW; AFA*; EFA*; Virtual Corporate Finance; Barcelona Summer Forum; Labor and Finance Conference; University of Maryland; Entrepreneurship Junior Group Online Seminars; Columbia University; University of Warwick*; University of Melbourne*; NYU WAPFIN (Women Assistant Professors in Finance)*

We construct a comprehensive dataset of antitrust lawsuits filed by the Department of Justice (DOJ) between 1980 and 2018, that includes the geographic scope and industries of the targeted companies. We find a continued secular decline in the number of antitrust lawsuits filed by the DOJ relative to the early 1980s, with wide variation across industries. We use this new dataset to study the systematic effect of antitrust lawsuits on industry dynamics, as measured by employment growth. We compare the employment growth of a nontradable industry located in a particular state that is the target of a DOJ lawsuit with the same non-tradable industry located in other states. In an event-study framework, we find that employment is relatively stable in the years leading up to antitrust lawsuits, but increases significantly in the years immediately following the lawsuit. The effect is stronger for local lawsuits and lawsuits remedying older violations. Our results suggest that antitrust enforcement has an important role in curbing anticompetitive behavior by firms and has a positive effect on aggregate outcomes.

13. Pay, Employment, and Dynamics of Young Firms, with Chris Moser (Columbia), Wenting Ma (UNC-Econ), Paige Ouimet (UNC), Rebecca Zarutskie (Board)

- AEA; AFA; FIRS*; Society of Labor Economists (SOLE)*; Mitsui Labor and Finance Symposium; Junior Entrepreneurial Finance and Innovation Workshop; UNC Kenan Institute Frontiers of Entrepreneurship; Dartmouth*; HEC*; Barcelona GSE Entrepreneurship*

Why do young firms pay less? Using confidential microdata from the US Census Bureau, we find lower earnings among workers at young firms. However, we argue that such measurement is likely subject to worker and firm selection. Exploiting the two-sided panel nature of the data to control for relevant dimensions of worker and firm heterogeneity, we uncover a positive and significant young-firm pay premium. Furthermore, we show that worker selection at firm birth is related to future firm dynamics, including survival and growth. We tie our empirical findings to a simple model of pay, employment, and dynamics of young firms.

REFEREE

The Distinguished Referee Award from the Review of Financial Studies 2021

Quarterly Journal of Economics; Journal of Finance; Review of Financial Studies; Journal of Banking and Finance; Management Science; Journal of Labor Economics; Journal of Empirical Finance; Review of Finance; Review of Corporate Finance Studies; Journal of Financial and Quantitative Analysis

CONFERENCE COMMETTEE

Labor and Finance Online Seminars; EFA; Cavalcade; FIRS; Mitsui Finance Symposium; European Economic Association Conference; Colorado Finance Summit; Junior Entrepreneurial Finance and Innovation Workshop; Rising Five-Star Workshop

TEACHING

Entrepreneurial Finance, 2019-2023; latest course ratings 4.2, 4.7, 5.0 (out of 5.0)

Entrepreneurial Finance and Private Equity, 2016-2017, 2017-2018

Corporate Finance, 2015

EMPLOYMENT

Research Assistant, University of North Carolina, Chapel Hill, NC *2011 to 2016*
· *Anil Shivdasani, Christian Lundblad, Geoffrey Tate*

Balance Sheet Analyst, Regions Financial Corp, Birmingham, AL *2008 to 2009*
· *Formulated forecasts of Net Interest Income for a $140 Bln bank balance sheet*

Research Assistant, the University of Alabama, Tuscaloosa, AL *2007 to 2008*

Project Coordinator, Centre for Strategic Design, Kharkiv, Ukraine *2004 to 2005*

SKILLS ◇ CERTIFICATIONS

Computer: SAS, SQL, Stata, Perl, C++, Bloomberg, Linux
Languages: English (fluent), Russian (native), Ukrainian (basic)
Certification: Passed all three levels of the Chartered Financial Analyst (CFA) examinations

OUTSIDE ACTIVITIES

None