

YOKO SHIBUYA

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Stanford University
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EDUCATION

Ph.D. in Economics, Stanford University,
Expected Completion: June 2022.

M.A. in Economics, University of Tokyo (Japan), 2014-2016.
B.A. in Economics, University of Tokyo (Japan), 2010-2014.

DISSERTATION COMMITTEE

Prof. Pete Klenow (Primary)
Economics Department, Stanford University
klenow@stanford.edu

Prof. Kyle Bagwell
Economics Department, Stanford University
kbagwell@stanford.edu

Prof. Takeo Hoshi
Economics Department, University of Tokyo
thoshi@g.ecc.u-tokyo.ac.jp

RESEARCH AND TEACHING FIELDS

Primary field: International Trade. Macro.
Secondary fields: Firm Dynamics. Supply Chains.

TEACHING EXPERIENCE

2020-21 Teaching Assistant for Prof. M. Tendall, Stanford University, Econ 166 (International Trade), **Outstanding Teaching Assistant Award**.

2015-16 Teaching Assistant for Prof. H. Tomura, University of Tokyo, Ph.D. Macroeconomics I.
Teaching Assistant for Prof. K. Aoki, University of Tokyo, Ph.D. Macroeconomics II.

RESEARCH PAPERS

[Firm Size and Complementarity between Geography and Products](#) (**Job Market Paper**)

I develop a model of heterogeneous multi-product firms operating in multiple markets that comprise

consumers with heterogeneous tastes. In the model, firms choose two extensive margins: product scope (how many products to sell) and geographic scope (how many markets to sell products to). Their decisions on product and geographic scopes interact in two ways: (1) the more products firms sell and the larger profit they expect, the more likely they are to enter a market, and (2) the more markets they enter, the greater variety of products they sell to cater to heterogeneous local tastes. I estimate the model to match moments in the Japanese barcode-level transaction data using the simulated method of moments. I run counterfactual exercises and find that eliminating either product or geographic scope underestimates firm size variations by 86% to 94% due to the interaction between the two margins. Furthermore, I analyze how missing one of the margins affects the welfare implication of size-dependent policies, taking an actual SME subsidy in Japan as an example. The results indicate that omitting the product scope margin underestimates the welfare costs of the subsidy by more than half.

[Multi-tier Supply Chain Financing with Blockchain](#) with Volodymyr Babich, **Under Review at Management Science**

We compare a Blockchain-based Supply Chain Finance system with traditional bank-based Supply Chain Finance solutions, using a three-tier supply chain model. Our model features financing frictions due to moral hazard with respect to product quality and dynamic updates of collateral-asset-value forecasts. The key advantage of a Blockchain-based system is its ability to create claims to collateral assets at higher supply chain tiers, while a bank-based system allows only creating claims to the immediate buyer's collateral asset. Interestingly, despite this advantage, a Blockchain-based system does not emerge as the dominant financing choice, even if the higher-tier buyer has the same profit margin and the same parameters of the collateral asset process as the immediate-tier buyer. We identify two causes of this surprising result: risk spillover from the higher-tier to the immediate-tier buyer and accumulation of more noise in the collateral asset when using the higher-tier buyer's collateral asset for financing. We provide conditions for the Blockchain-based system to be equally attractive and conditions for the Blockchain-based system to be preferred.

Personal Guarantees and Firms' Risk-Taking Behavior with Takeo Hoshi

We analyze whether bank loans without personal guarantees encourage firms' risk-taking behaviors using a bank lending model with moral hazard. Loan financing with personal guarantees prevents entrepreneurs from taking risks because the risk of losing personal assets is high. Whether removing personal guarantees is welfare improving depends on whether the risk-taking opportunities are socially optimal; when risk-taking opportunities yield net positive social returns removing personal guarantees encourages welfare-improving risk-taking behaviors of firms and vice versa. We use Japanese loan financing data from the government SME financing corporation to examine whether the removal of personal guarantees encourages socially optimal risk-taking behaviors. The analysis exploited the policy reform in 2014, Guideline for Personal Guarantees by Business Owners, asking government-owned banks not to use personal guarantees when lending to SMEs. The results suggest that removing personal guarantees induces firms with low credit ratings to take socially sub-optimal risk-taking behaviors.

RESEARCH IN PROGRESS

Capacity Commitment and Deep-tier Supply chain Finance with Volodymyr Babich

Personal Guarantees and Business Successions with Takeo Hoshi

PUBLICATIONS

SHIBUYA, Y., G. YAMAMOTO, F. KOJIMA, E. SHI, S. MATSUO, A. LASZKA [2021], “[Selfish Mining Attacks Exacerbated by Elastic Hash Supply](#)”, *Financial Cryptography and Data Security*.

FAYAD, G., C. HUANG, Y. SHIBUYA, P. ZHAO [2021], “[IMF 2021 Comprehensive Surveillance Review---Background Paper in Traction](#)”, *IMF Policy Paper*, No. 2021/034.

FAYAD, G., C. HUANG, Y. SHIBUYA, P. ZHAO [2020], “[How Do Member Countries Receive IMF Policy Advice: Results From a State-of-the-art Sentiment Index](#)”, *IMF working paper*, No. 20/7.

FABINGER, M., Y. SHIBUYA, AND M. TANIGUCHI [2017], “[International Influences on Japanese Supply Chains](#)”, *RIETI Discussion Paper Series*, 17-E-022.

RELEVANT POSITIONS

2021	Visiting Researcher, Cryptography & Information Security Lab at NTT Research Inc.
2019	Intern, International Monetary Fund.
2019	Visiting Scholar, Matsuura Blockchain and Cyber-security Lab, University of Tokyo
2017-18	Research Assistant for Prof. A. Auclert, Stanford University.
2014-16	Research Assistant for Prof. M. Fabinger, University of Tokyo

SCHOLARSHIPS, HONORS AND AWARDS

2021	Regulatory Policy Fellowship, SIEPR.
2020	Outstanding Teaching Assistant Award, Stanford University.
2020	Stanford IRiSS Research Data Grants.
2020-22	Dissertation Fellowship, Freeman Spongli Institute of International Studies.
2018-20	IMF Scholarship.
2016-18	Funai Overseas Scholarship.
2016	Grants-in-Aid for Scientific Research.
2014	Best Thesis Award, University of Tokyo.

INVITED TALKS

INFORMS (2020, 2021), Supply Chain Finance Hub (2021)

PROFESSIONAL ACTIVITIES

Referee for *American Economic Review: Insights*.