

## **GUANGZHI YE**

Department of Economics, Boston University  
270 Bay State Road, Room B03B  
Boston MA 02215 USA  
Cell: (617) 959-9734  
Email: [gye@bu.edu](mailto:gye@bu.edu)  
Web site: <http://www.guangzhiye.com>

---

### **EDUCATION**

Ph.D., Economics, Boston University, Boston MA, May 2022 (expected)

Dissertation Title: *Essays on Firm Finances and Macroeconomics*

Dissertation Committee: Stephen J. Terry, Adam Guren and Robert G. King

Ph.D. Level Coursework:

Topics in Macroeconomics and Monetary Theory, Applied Macroeconomics, Economic Dynamics, Macroeconomics and Financial Markets, International Finance, Financial Econometrics, Advanced Topics in Econometrics, Time Series Econometrics, Corporate Finance

M.A., Economics, Boston University, Boston MA, 2016

B.S., Mathematics and Economics, Hong Kong University of Science and Technology, Hong Kong, China 2014

### **FIELDS OF INTEREST**

Macroeconomics, Finance

### **WORKING PAPERS**

“[The Macro Impact of the Recovery Rate](#),” October 2021. Job Market paper.

### **WORK IN PROGRESS**

“Liquidation Value of Intangibles and Aggregate Efficiency”

“Intangible Investment, Financial Heterogeneity and Monetary Policy”

“Immigration and Entrepreneurship”

### **PRESENTATIONS**

Boston University Macro Dissertation Workshop, Boston, MA, 2019, 2020, 2021

Graduate Student Research Conference, School of Global Studies, Boston University, Boston, MA, 2015

### **FELLOWSHIPS AND AWARDS**

Teaching Fellowship, Boston University, Fall 2017-Spring 2022

Summer Research Grant, Boston University, Summer 2019, Summer 2020

Dean’s Fellowships, Boston University, Fall 2016-Spring 2017

Prize for Academic Excellence in the Economics Master’s Program, Boston University, 2015

3rd prize of the Undergraduate Excellent Paper Award (Supervisor: Yao Amber Li), Hong Kong University of Science and Technology, 2014

School of Science Scholarship, Hong Kong University of Science and Technology, Fall 2010-Spring 2011

**WORK EXPERIENCE**

Research Assistant for Prof. Melissa Dell, Harvard University, Summer 2015  
Research Assistant for Prof. Albert Park, Hong Kong University of Science and Technology,  
Spring 2014  
Research Assistant for Prof. Yong Wang, Hong Kong University of Science and Technology,  
Spring 2013-Fall 2013

**TEACHING EXPERIENCE**

Teaching Fellow, Faculty of Computing & Data Sciences, Boston University  
DS110 Introduction to Data Science with Python, Fall 2021  
Teaching Fellow, Department of Economics, Boston University  
EC502 Macroeconomic Theory (graduate-level), Fall 2020-Spring 2021  
EC102 Introductory Macroeconomic Analysis, Spring 2020, Summer 2021  
EC101 Introductory Microeconomic Analysis, Fall 2017  
Teaching Assistant, Department of Economics, Boston University  
EC542 Money and Financial Institutions (graduate-level), Fall 2019  
EC391 International Trade, Fall 2019  
EC341 Monetary and Banking Institutions, Fall 2018-Spring 2019  
EC342 Monetary and Banking Theory, Spring 2019  
EC445 Economics of Risk and Uncertainty, Fall 2018  
EC202 Intermediate Macroeconomic Analysis, Spring 2018

**WORKSHOPS PARTICIPATION**

Tools for Macroeconomists, London School of Economics and Political Science, London,  
Summer 2019  
Macro Financial Modeling Summer Session, Becker Friedman Institute, Summer 2018  
Human Capital and Economic Opportunity Global Working Group Summer Schools on  
Socioeconomic Inequality, Guangzhou, Summer 2017

**LANGUAGES**

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

**COMPUTER SKILLS:** Fortran, MATLAB, STATA, Python, LaTeX, R, EViews, SQL,  
Mathematica

**CITIZENSHIP/VISA STATUS:** China/F1

**REFERENCES**

**Professor Stephen Terry**  
Department of Economics  
Boston University  
Phone: +1 (617) 353-4455  
Email: [stephent@bu.edu](mailto:stephent@bu.edu)

**Professor Adam Guren**  
Department of Economics  
Boston University  
Phone: +1 (617) 353-4534  
Email: [guren@bu.edu](mailto:guren@bu.edu)

**Professor Robert G. King**  
Department of Economics  
Boston University  
Phone: +1 (617) 353-5941  
Email: [rking@bu.edu](mailto:rking@bu.edu)

# GUANGZHI YE

---

## **The Macro Impact of the Recovery Rate (Job Market Paper)**

The recovery rate of capital determines lenders' credit supply, and in equilibrium, affects the demand and total credit amounts. Recent rising intangibles in the US may reduce recovery. I use CRSP/Compustat database to find that industries with higher proxies for recovery rates issue more debts and have lower distance to default. To understand the aggregates, I build a canonical quantitative general equilibrium heterogeneous firm model and estimate the recovery rate by matching investment and debt covariance, average spread, and average default rate. The simulated method of moments (SMM) estimate of the recovery rate is 74%. The counterfactuals reveal that declines in the recovery rate reduce aggregate output, credit, and welfare by constraining capital accumulation. Tackling intangibles by a broader notion of capital, I estimate a recovery rate of 46% with the same model structure, implying that rising intangibles could cause nontrivial output and welfare losses due to financial frictions.

## **Liquidation Value of Intangibles and Aggregate Efficiency**

Intangible capital has grown in importance as the US economy has evolved towards service-based and technology-based industries. Intangible capital spending is a type of capital expenditure that is not negligible compared to physical capital investment. Drawing on CRSP/Compustat merged dataset of US public firms, I evaluate financial positions of firms with high and low asset tangibility. The key finding of my empirical exercise is that industries and firms with lower average asset tangibility have lower average debt-to-sales ratios and higher average value of distance-to-default both in the long run and short run. To study the aggregate implications of rising intangibility, I extend the canonical discrete-time firm investment model with risky debt by incorporating firms' decisions about intangible investment and liquidation value of intangible capital in my pricing function of risky debts, and combine it into the general equilibrium framework. If the model parameters are externally calibrated to values in the literature, welfare and macro TFP increase when intangibles are liquidatable.

## **Intangible Investment, Financial Heterogeneity and Monetary Policy**

This paper examines how firms with different leverage levels react differently to a monetary policy shock in intangible investments in microdata. I use quarterly Compustat data spanning 1995-2014 and calculate intangible capital as the sum of knowledge and organization capital. I interpret R&D spending by firms as an investment in knowledge capital and interpret a constant fraction of SG&A spending as an investment in organization capital. The perpetual inventory method is used to calculate the replacement costs. I average the high-frequency monetary policy shocks from the macroeconomics literature to estimate the quarterly monetary shock. Following a positive monetary policy shock, firms with higher leverage invest less in knowledge capital and organization capital. The differential response of organization investment is generally persistent, while the differential response of knowledge investment comes with a lag and lasts for only two quarters following the shocks. These reduced-form micro-level findings imply a firm's intangible investment decisions are subject to capital adjustment costs and financing frictions.

## **Immigration and Entrepreneurship**

I demonstrate that immigration has a causal effect on local entrepreneurship in US counties. I use the exogenous variation in ancestry composition taken from Burchardi et al. (2020) as an instrumental variable to predict the total number of migrants flowing into each US county from 1990 to 2010. First, I identify a strong and significant causal impact of immigration on the number of new business registrants per person. A one standard deviation increase in the number of migrants increases the change of new start-ups by 10% relative to its mean. Second, I find a significant causal impact of immigration on the quality of start-ups. A one standard deviation increase in local immigration improves the probability of a start-up achieving growth by 9% relative to the mean decline. Considering both the quantity and quality of start-ups, I demonstrate a significant causal impact of immigration on the expected number of start-ups with growth per person. Increases in the number of migrants by one standard deviation raise the number of start-ups attaining growth by 39 percent relative to the mean. These findings suggest that immigration may be an essential local driver of economic dynamism via the channel of local entrepreneurship.