MIT Economics

HENRY H. ZHANG

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DOCTORAL STUDIES

Massachusetts Institute of Technology (MIT)
PhD, Economics, Expected Completion in May 2025
DISSERTATION: "Essays in Finance and Firm Linkages"

DISSERTATION COMMITTEE AND REFERENCES

Professor Robert Townsend
MIT Department of Economics
77 Massachusetts Ave, E52-538
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Professor Dave Donaldson
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Professor Tong Liu
MIT Sloan School of Management
100 Main St, E62-623
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PRIOR EDUCATION

Swarthmore College — 2017
BA with Highest Honors, Mathematics and Economics

CITIZENSHIP

USA

LANGUAGES

English (native), Mandarin Chinese (intermediate), Spanish (intermediate)

FIELDS

Primary Fields: Finance, Macroeconomics
Secondary Field: Environmental Economics

TEACHING EXPERIENCE

14.381 Estimation and Inference for Linear Causal and Structural Models (MIT, Graduate) — 2023
Teaching Assistant to Professor Whitney Newey
14.380 Statistical Methods in Economics (MIT, Graduate) — 2023
Teaching Assistant to Professor Anna Mikusheva
14.27 Economics and E-Commerce (MIT, Undergraduate) — 2022
Teaching Assistant to Professor Sarah Ellison
14.73 The Challenge of World Poverty (MIT, Undergraduate) — 2021
Teaching Assistant to Professors Esther Duflo and Frank Schilbach

RELEVANT POSITIONS

Pre-Doctoral Fellow and Research Assistant to Professor Michael Greenstone (University of Chicago) — 2016-2019

FELLOWSHIPS HONORS, AND AWARDS

EU Horizon 2020 Research and Innovation Grant ($9,000)	2023
PEDL Exploratory Research Grant ($33,000)	2022
STICERD ($13,000)	2022
George and Obie Shultz Fund ($7,550, $5,540)	2022, 2024
National Science Foundation Graduate Research Fellowship	2019-2024

RESEARCH PAPERS

Firm-Level and Aggregate Effects of Cheaper Liquidity: Evidence from Factoring (Job Market Paper) (with Victor Orestes and Thiago Silva)

We show that firms experience large increases in sales and purchases after receiving cheaper liquidity. We focus on factoring, defined as the supplier-initiated sale of receivables. In Brazil, receivables funds (FIDCs) securitize receivables for institutional investors. By assembling a novel transaction-level dataset of factoring with other credit operations for all registered firms and FIDCs, we construct a shift-share instrument for factoring financing supply based on FIDC flows. We then use a novel combination of electronic payments, trade credit, and employer-employee matched data to estimate the impacts. A flow-induced increase in receivables demand reduces firms' factoring interest rate. In response, firms demand more permanent labor and less temporary labor. In our model, these effects arise from factoring's purpose of reducing cash inflow volatility, helping firms match inflows to outflows, which firms otherwise achieve at an efficiency cost through substitution across labor types. Using our model, we estimate that an aggregate decrease in the economy-wide factoring spread by 1 percentage point leads to 0.3 to 0.5 percentage point increases in aggregate output and wages.

Excess Volatility and Under-Insurance with Limited Pledgeability: Evidence from the Frost Shock (with Victor Orestes and Thiago Silva)

We use transaction-level data on payments, credit, and insurance to examine how Brazilian farmers responded to the severe frost of July 2021, a shock that affected coffee, a perennial crop whose plants are a major component of farm value. The frost shock reduced both output and the pledgeable value of farmers' collateral. We find that insured farmers increased investment in the years following the shock, while uninsured farmers reduced investment and borrowing. We show how this pattern is consistent with models of imperfect pledgeability of a firm's collateral, where constrained firms neither insure (ex-ante) nor fully recover from a shock (ex-post). Limited commitment endogenously generates under-insurance through the combination of upfront payment of the insurance premium with the tightening of borrowing constraints post-shock due to the decrease in total collateral. We discuss two equilibrium implications of this mechanism: the inefficacy of emergency credit lines in targeting liquidity constrained firms and the amplification of output volatility from the rising risk of extreme weather shocks.

Aggregate Impacts of Command-and-Control Environmental Policy: Evidence from Court-Ordered Mining Bans in India (with Ananya Kotia and Utkarsh Saxena)

We estimate the aggregate impacts of court-ordered iron ore mining bans in India and consider the counterfactual welfare gains from an alternative policy to the ban. The local sectoral ban is a command-and-control (CAC) policy that is commonly applied to natural resource settings, usually when the regulator has a signal of widespread non-compliance. The Supreme Court of India imposed bans on iron ore mining and outbound iron ore trade in two states in response to reports that mines operated under fake environmental permits and underpaid mining royalties. Using firm-level industrial survey data, mine-level output data, and bilateral mine-to-firm auction data, we decompose the bans' effects into trade, production networks, and local labor demand channels. Our results indicate persistent declines in employment, capital stock, and borrowing by iron-consuming plants, despite the temporary duration of the ban. These findings highlight the economic spillovers caused by CAC policies, especially in industries that are upstream in the supply chain.

RESEARCH IN PROGRESS

Forward Guidance, Speculation, and Liquidity Shortfalls in an OTC Carbon Credit Market (with Luis Alvarez, Victor Orestes, and Thiago Silva)

We estimate the effects of forward guidance on the supply of carbon credits when trading is subject to over-the-counter (OTC) frictions, focusing on the CBIO market in Brazil. We combine the OTC tape data with firms' carbon credit holdings, balance sheet outcomes, and interfirm payments to study the impact on demand for carbon credits, borrowing, investment, and supply chain spillovers. We focus on the rapid increase in prices in June 2022 followed by a crash in July 2022, driven by speculation about forward guidance and an unexpected change in carbon credit policy. We show how low liquidity generated the volatility, and then propagated by limited float, insufficient hedging options, and the absence of designated market-makers.