Xiaojie Liu

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EDUCATION

Kellogg School of Management, USA
Ph.D in Managerial Economics and Strategy 2019 - 2025 (expected)

Sciences Po, Paris, France
Master in Economics, Summa Cum Laude 2017 - 2019

Fudan University, Shanghai, China
B.Sc. in Electrical Engineering, with honor 2012 - 2016

REFERENCES

Professor Alireza Tahbaz-Salehi (Co-Chair)
Kellogg School of Management
Northwestern University
847-491-2359
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Professor Lawrence Christiano (Co-Chair)
Department of Economics
Northwestern University
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Professor Benjamin Jones
Kellogg School of Management
Northwestern University
847-491-3177
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Professor George-Marios Angeletos
Department of Economics
Northwestern University
847-491-8217
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Professor Sara Moreira
Kellogg School of Management
Northwestern University
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RESEARCH FIELDS

PRIMARY: Macroeconomics, Economic Growth and Monetary Economics
SECONDARY: Innovation, Informational Economics, Search, Economic Expectations

AWARDS, HONORS AND GRANTS

Northwestern Kellogg research fellowship	2019-2025
Princeton Initiative Travel Grant	2022
Sciences Po Academic Scholarship	2017-2019
Hua-Meng Scholarship for Economic Studies	2017, 2024
Fudan Academic Excellence Scholarship	2012-2016
High School National Physics Competition Silver Medal	2011

RESEARCH EXPERIENCES

Research Assistant, Benjamin Jones, Kellogg School of Management 2023

Research Assistant, Sara Moreira, Kellogg School of Management 2022

Research Assistant, Alireza Tahbaz-Salehi, Kellogg School of Management 2022

Research Assistant, Mirko Wiederholt, Sciences Po, Paris 2020

Research Assistant, Changyuan Luo, Fudan University, Shanghai 2017

TEACHING EXPERIENCES

Teaching Assistant, Business Analytics [MBA/EMBA] 2021-2022

Hold office hours and review sessions on statistics, econometrics and STATA.

Teaching Assistant, Business Strategy [MBA/EMBA] 2022-2024

Grade and answer questions about class materials.

Teaching Assistant, International Trade [Undergraduate] 2017

Review papers in the TA session and grade students' comments on required readings.

PRESENTATIONS AND CONFERENCES

NBER Summer Institute, EFG meeting 2022

Northwestern Macro Lunch Series 2020-2024

Northwestern Kellogg Strategy Brownbag 2020-2024

Princeton Initiative 2021

JOB MARKET PAPER

"Consumer Search, Information Frictions and Monetary Non-Neutrality"

Abstract: This paper develops a model of monetary non-neutrality driven by information asymmetry between consumers and firms about nominal marginal costs in a sequential search framework. With only consumer-side frictions, this approach is distinguished from the standard one that relies on firm-side pricing frictions. Consumers' value of search is determined by their information about the price index, and firm's elasticity of demand depends on the perceived relative price. The passthrough of aggregate shocks to prices is therefore incomplete. The key mechanism is that, following a monetary shock, consumers attribute some of the resulting price changes to firm-specific adverse shocks, inducing them to search for alternatives. To dissuade search, firms compress the markup and limit the passthrough of the shock. I further show that the output gap is proportional to the nowcast error of inflation in the Phillips curve. Despite its parsimonious nature, the calibrated dynamic general equilibrium model can generate substantial monetary non-neutrality. Consistent with the mechanism, higher inflation is associated empirically with more active consumer search.

PUBLICATIONS

"A Framework for Economic Growth with Capital-Embodied Technical Change" with Benjamin Jones, *American Economic Review*, May 2024

Abstract: Technological advance is often embodied in capital inputs, like computers, airplanes, and robots. This paper builds a framework where capital inputs advance through (i) increased automation and (ii) increased productivity. The interplay of these two innovation dimensions can produce balanced growth, satisfying the Uzawa Growth Theorem even though technological progress is capital-embodied. The framework can further address structural transformation, general-purpose technologies, the limited macroeconomic impact of computing, and declining productivity growth and labor shares. Overall, this tractable framework can help resolve puzzling tensions between micro-level observations of innovation and balanced growth while providing new perspectives on numerous macroeconomic phenomena.

WORKING PAPERS

"Confusion, Phillips Curves and De-anchored Inflation" with Dalton Zhang

Presentations: Northwestern Macro Lunch, Kellogg Strategy Brownbag

Abstract: We investigate inflation dynamics when firms are uncertain about the causes of aggregate fluctuations and use prices and output as learning tools. During periods of low inflation, firms observing increased output attribute this change partly to positive demand and partly to positive supply factors, resulting in a dampened pricing response. Consequently, demand shocks are near non-inflationary while supply shocks are strongly inflation, given that supply shocks directly change firms' marginal cost while expectations about aggregate inflation and output is dampened. As inflation escalates, firms raise prices in response to either perceived positive demand or negative supply shocks, triggering a self-fulfilling cycle of de-anchored inflation. Supported by survey evidence, our endogenous information New Keynesian model (with or without explicit nominal rigidity) can generate realistic monetary non-neutrality and explains occasional inflation de-anchoring. This model explains the business cycle puzzle of inflation disconnect and flattened Phillips curve, and also offers new insights into inflation dynamics and monetary policy implications.

"Strategic Complementarity in Price Setting: Evidence from Retail Industry"

Presentations: Northwestern Macro Lunch, Kellogg Strategy Brownbag

Abstract: Strategic complementarities in firm price setting are crucial in shaping macroeconomic outcomes. This paper offers the first empirical estimate of retailers' price responses to competitor price changes, leveraging large-scale Nielsen data on prices and sales. To address reverse endogeneity, we introduce a novel instrumental variable strategy based on DellaVigna and Gentzkow (2020). In contrast to Amiti, Itskhoki, and Konings (2019), who show strong complementarity in the manufacturing sector, we find weaker evidence of strategic complementarity, with a typical firm adjusting its price with an elasticity of 0.14 in response to competitors' price changes. To explain this discrepancy, we develop a theoretical framework that incorporates two buyer-side frictions: (i) search frictions and (ii) information frictions regarding sectoral shocks. Our findings indicate that strategic complementarity is highly sensitive to the level of information frictions. Finally, we provide suggestive evidence that buyers in the retail sector, typically households, may have less information on sectoral shocks.

WORK IN PROGRESS

"Time-Dependent Price Adjustment and the Neutrality of Money"

Presentations: Northwestern Macro Lunch, Kellogg Strategy Brownbag

Abstract: Caplin and Spulber (1987) famously argue that price stickiness disappears in the aggregate if the "right" firms change the prices in the menu cost economies. We present a mechansim that makes monetary non-neutrality disappears in time-dependent price adjustment models, which serves a counterpart to Caplin and Spulber (1987). In particular, we incorporates price dispersion into an otherwise standard New Keynesian model and demonstrate that monetary non-neutrality can be negligible even when only small fraction of firms adjust prices. The key mechanism is that adjustable firms create price-setting externalities for other firms: they alter demand across the price distribution such that prices remain optimal even for non-adjusting firms within the range suggested by a mixed pricing strategy. Following a positive (negative) monetary shock, only a negligible fraction of firms

on the left (right) tail of the price distribution deviate from optimal pricing, resulting in negligible monetary non-neutrality.

"Pricing Frictions and Innovation" with Sara Moreira

Abstract: This paper studies the relationship between pricing and product innovation decisions. Using detailed product- and firm-level data, we find new evidence of price frictions in incumbent products over their life cycle and their association with product innovation rates and the price levels of new products. Our findings suggest that the nominal price of an existing product barely increases over the long term. Instead, the rise in the nominal price index is largely driven by the introduction of new products. Firms tend to charge a high price premium on new products, a phenomenon we term "price overshooting". We develop a dynamic endogenous growth model within a monetary economy and demonstrate that, in an environment with pricing frictions, the option value of setting a new price incentivizes firms to innovate. Anticipating price rigidity over a product's life cycle, firms overshoot prices at the initial stage of product introduction.

"Capital-Embodied Skill-Biased Technical Change" with Benjamin Jones

OTHER EXPERIENCE

Translation to Chinese Version

"The Great Convergence: Information Technology and the New Globalization"

Authored by Richard Baldwin 2016
Translated with Zhiyuan Li and Changyuan Luo 2020
English version available here. Chinese version available here.

LANGUAGE

English (Fluent), Mandarin (Native)