

Linxi Chen

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EDUCATION

Ph.D. in Economics, Duke University, 2018 (Expected)

M.A. in Economics, Duke University, 2012

B.A. in Economics, Sun Yat-sen University, 2010

RESEARCH INTERESTS

Macroeconomics, Computational Economics, Time Series Econometrics

JOB MARKET PAPER

Asymmetric Inventory Dynamics and Product Market Search

Why does inventory investment accounts for on average 72% of GDP decline during recessions but only 8% during expansions? Why does inventory-sales ratio ceases to be countercyclical since 1990s but continue to lag GDP for four quarters? These newly documented stylized facts pose challenges to existing macroeconomic models with inventories and cast doubts on important conclusions drawn from standard models. In this paper I show that incorporating product market search friction in a standard inventory model can address these stylized facts. Product market search enhances firms' asymmetric trade-off between accumulating inventory and adjusting markup, and thus generates strong asymmetric share of inventory investment in GDP movements. Product market search also generates the lagging inventory-sales ratio because in expansions(recessions) households' procyclical effort to search for varieties increases(decreases) sales and inventory holding at the early stage of expansions(recessions). Its effects, however, are later eclipsed by heightened(lowered) return to holding inventory which only increases(decreases) inventory stock. The model is empirically disciplined with micro evidence provided by recent empirical studies and its behavior is consistent with inventory and business cycle stylized facts in the U.S., in addition to explaining the two newly documented inventory stylized facts and being broadly consistent with observed business cycle asymmetries.

WORKING PAPERS

Investment Lumpiness and Investment Goods Price

with Yang (Jack) Yu

What Does Inventory Tell Us About Business Cycle Regimes?

Quantifying China's Supply-Side Structural Reform

with Ding Ding, Rui Mano

INVITED PRESENTATIONS

The Asian Meeting of the Econometric Society Aug 2016, Kyoto
Paper Title: *Investment Lumpiness and Investment Goods Price*

The 25th Annual Symposium of the Society for Nonlinear Dynamics and Econometrics Mar 2017, Paris
Paper Title: *Asymmetric Inventory Dynamics and Business Cycle Fluctuations*

PROFESSIONAL EXPERIENCE

The International Monetary Fund Summer Internship
Asia and Pacific Department Jun 2017–Aug 2017, Washington D.C., USA

- Led research project to quantify the effects of China’s supply-side structural reforms (SSSR) on PPI reflation since 2016
- Adopted Dynamic Factor Model to extract demand side factors relevant for China’s PPI indexes, exploiting collinearity in data
- Tested econometrically the hypothesis that the capacity reduction measures in SSR contributed to PPI reflation once demand factor are controlled for
- Found little evidence for the effects of capacity reduction on PPI reflation but strong impact of demand side factors

Deutsche Bank Assistant Researcher
Global Market Division Aug 2009–Nov 2009, Hong Kong, China

- Analyzed recovery of Chinese industries from the 2007 financial crisis
- Conducted independent research on “Deleveraging” in U.S. households
- Drafted and edited quarterly and annual research reports

GHK International Assistant Consultant
Manila Office July 2009–Aug 2009, Manila, the Phillipines

- Surveyed beneficiaries for poor community housing projects for the Asian Development Bank
- Coordinated with partners in evaluating micro-finance initiatives
- Organized and prepared documents for the Urban Strategic Sector Roadmap Workshop in Yerevan, Armenia

RESEARCH EXPERIENCE

Research Assistant Aug 2015–May 2016
Prof. Cosmin Ilut, Duke University

- Developed parallel code for a heterogeneous agents DSGE model

Visiting Scholar Jan 2014
Federal Reserve Bank of Philadelphia

- Provided technical assistance to Dr. Pablo Guerron on GPU computing

Research Assistant May 2013–May 2015
Prof. Juan Rubio-Ramirez, Duke University, Emory University

- Developed parallel code for Markov switching value function iteration using GPU (CUDA)
- Developed parallel code for particle filtering algorithm using GPU (CUDA)
- Applied nonlinear solution methods to DSGE models with financial frictions in the form of occasionally binding constraints

Research Assistant

May 2013–Aug 2013

Prof. Daniel Xu, Economics Department, Duke University

- Drafted sections of technical appendix on Bayesian econometric methods for the paper *A Structural Model of Demand, Cost, and Profitability Across Chinese Exporting Firms*
- Prepared literature review on economic forecast model

Research Assistant

Mar 2011–Sep 2011

Prof. Daniel Chen Research Group, Duke University Law School

- Implemented the LASSO method to select the best IV variable for Belloni, Chen, Chernozhukov, Hansen (2011)
- Implemented Bootstrapping methods to obtain adjusted standard errors in regressions using entire CPS dataset
- Obtained and prepared NLSY dataset for the paper “Insiders and Outsiders: Does Forbidding Sexual Harassment Exacerbate Gender Inequality?”
- Merged and matched federal judges bio data from FJC dataset and the Auburn dataset

TEACHING EXPERIENCE

International Finance

Sep 2015–Dec 2015

Prof. Cosmin Ilut, Economics Department, Duke University

Pricing

Sep 2012–Dec 2012

Prof. Wilfred Amaldoss, Fuqua Business School, Duke University

International Finance

Sep 2012–Dec 2012

Prof. Cosmin Ilut, Economics Department, Duke University

Principles of Economics

Sep 2007–Jan 2008

Prof. Sun Qunyan, Sun Yat-sen University

AWARDS

- Graduate School Conference Travel Grant, Duke University, 2017
- Competitive Research Fellowship, Duke University, 2014, 2015, 2016
- Exceptional Undergraduate Research Award, Sun Yat-sen University, Nov 2008
- Fung’s Fellowship, Victor and William Fung Foundation, 2008
- University Scholarship, Sun Yet-sen University, 2007-2009

COMPUTER SKILLS

Programming: C++, CUDA C, CUDA Thrust, Stata, MATLAB, Julia, Dynare

Document: L^AT_EX, Word, Powerpoint, Excel

Others: Linux system maintenance, Git

LANGUAGE

English, Chinese, Cantonese

REFERENCES

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Craig Burnside, Professor and Chair, Department of Economics, Duke University

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