XIANG LI, Ph.D.

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PROFESSIONAL SUMMARY

I am an economist with 6 years of experience in quantitative analysis and statistical programming (R, Python, SQL, Matlab, Stata). My expertise focuses on applying time-series econometrics to conduct economic forecasting and nowcasting. I am interested in using complex data to conduct research on the dynamics of financial markets and areas of macroeconomics, and presenting results to technical and non-technical audiences.

PROFESSIONAL EXPERIENCE

Assistant Professor of Economics, Lacy School of Business, Butler University, Indianapolis, IN, USA 2021 – 2022
- *Courses I taught:* Money & Banking, Intermediate Macroeconomics

Research Fellow, Sim Kee Boon Institute for Financial Economics, Singapore Management University, Singapore 2021

Instructor of Economics, University of Oregon, Eugene, OR, USA 2016 – 2021
- *Courses I taught*: Econometrics, Money & Banking, Intermediate Macroeconomics, Introductory Macroeconomics

MODELING EXPERIENCE

Nowcasting Business Cycle Phases with Mixed-Frequency Data 2020 - 2021
- *Objective:* I want to propose a procedure to measure probabilities of the U.S expansions and recessions post 1980.
- *Method:* I constructed a novel real-time dataset using vintages of U.S. macroeconomic data. I established a mixed-frequency dynamic factor model and extracted a daily index to proxy for economic activity using Kalman filter and Maximum Likelihood Estimation. I trained a supervised Markov regime-switching classifier to measure recession probabilities.
- *Result:* My model significantly and consistently improves the speed at which expansions and recessions can be identified in the United States since 1980. As representative examples, my model identified the 2007-2009 Great Recession on March 30, 2008, 246 days ahead of the National Bureau of Economic Research (NBER) announcement. During the Covid-19 pandemic, while the NBER announced on June 8, 2020 that a new recession had started in the United States since March 2020, my model identified this recession on March 22, 2020, 78 days ahead of the NBER announcement.

A New High Frequency, News Based, Indicator of Macroeconomic Activity 2020 - 2021
- *Objective:* I want to extract information encoded in the news articles to identify the U.S expansions and recessions faster.
- *Method:* I compiled 410,601 economic news articles and pre-processed the raw text using textual analysis techniques, including tokenization, removing stopwords, stemming, and reversing negation words. I applied dictionary methods to develop a high-frequency News-Based Sentiment Index to proxy for aggregate economic conditions in the United States post 1991.
- *Result:* With the news-based sentiment index incorporated, my model identified the Great Recession even earlier, on December 2, 2007; in addition, my model identified the Covid-19 recession 71 days ahead of the NBER announcement.

Is the Response of Economic Output to Monetary Policy Asymmetric in China? 2018 - 2019
- *Objective:* I want to study the impact of monetary policy on output growth in high-growth vs. low-growth periods in China.
- *Method:* I pre-processed data by removing effects of the Lunar New Year, adjusting for seasonality, handling missing values and outliers by an iterative expectation-maximization algorithm, and removing a local mean using a biweight kernel. I measured Chinese economic activity using dynamic factors and identified monetary policy shocks using a factor-augmented vector autoregression. I used a smooth increasing function to measure probabilities of the economy in high- and low-growth states.
- *Result:* Using local projection methods, I found that monetary policy had larger impacts on output in low-growth states.

Forecasting Using Bayesian VAR 2018
- *Objective:* I want to perform pseudo out-of-sample forecasts of U.S. inflation rate, unemployment rate, and interest rate.
- *Method:* I constructed a VAR(2) model. Using Bayesian methods, I estimated posterior means of coefficients based on analytical and non-analytical priors. I compared the performance of priors using mean squared errors.
- *Result:* Non-analytical priors perform better in terms of forecast ability, especially when the forecast horizon gets longer.

Modeling and Forecasting U.S./U.K. Exchange Rate Dynamics 2014
- *Objective:* I want to conduct a 1-year pseudo out-of-sample forecast of the U.S./U.K. exchange rate.
- *Method:* I tested autocorrelation and partial correlation of foreign exchange dynamics and set up a deterministic model. I conducted unit root tests and set up an ARIMA model. I tested stability of parameters and set up a GARCH model.
- *Result:* GARCH model had the smallest forecast error and outperformed other models.

Note: see the personal website, https://lx0413.github.io/research.html, for data visualization of my research.

EDUCATION

Ph.D., Economics, University of Oregon, Eugene, OR, USA 2016-2021
- *Awards I received:* Graduate Teaching Fellowship, Kleinsorge Summer Research Fellowship, 3rd place in 3-Minute Thesis Competition
- *Conference presentations*: Western Economic Association International 96th Conference, The Chinese Economists Society 2021 Annual Conference

M.S., Policy Economics, University of Illinois at Urbana Champaign, IL, USA 2014-2015

B.S., Economics, University of International Business and Economics, Beijing, China 2009-2013