QIAOYU WANG

Department of Economics, Texas A&M University, 4228 TAMU, College Station, TX 77843

wqy680426@tamu.edu | (979) 571-8233 | https://wqyinfo.com/

EDUCATION

Ph.D. candidate in Economics, Texas A&M University, College Station, Texas, May 2023 (expected)

M.S. in Economics, Texas A&M University, College Station, Texas, 2017

B.S. in Mathematics, Southwestern University of Finance and Economics, Chengdu, China, 2015

B.A. in Economics, Southwestern University of Finance and Economics, Chengdu, China, 2015

FIELDS OF INTEREST

Econometrics, Applied Econometrics

PUBLICATION

"Oil Supply News Shock and Chinese Economy" with Dandan Liu and Karen Xueqing Yan, *China Economic Review 73 (2022): 101796.*

This paper studies the effects of the oil supply news shock on the Chinese economy using a novel approach as newly proposed in Känzig (2021). Specifically, we use the changes of West Texas Intermediate oil futures prices around OPEC meeting announcements as a high-frequency instrument in a structural VAR model to identify the oil supply news shock. Our results suggest that China's domestic economy is not affected significantly by the shock in terms of industrial production and CPI, two important economic indicators. However, due to the global features of the international trade, China's exchange rate and trade balance respond to the shock.

WORKING PAPERS

"A Nonparametric Bayesian Estimator of Copula Density with an Application to Option Pricing" with Ximing Wu, *to be submitted* (Job Market Paper)

We propose a nonparametric Bayesian copula density estimator based on Logistic Gaussian Process density estimation method. A Gaussian process prior with flexible mean and covariance functions is placed on the latent functions. To avoid typical boundary issues in copula density estimation, a transformation approach is adopted such that the latent process is defined on an unrestricted support and subsequently back-transformed to obtain the posterior copula density. We also develop a sampler to facilitate sampling from the posterior copula distribution with ease and efficiency. Monte Carlo simulations demonstrate good overall and tail performance of the proposed estimator and the efficiency of the posterior sampler. We apply the proposed method to the pricing of options based on a flexible time-varying copula model of the underlying asset returns.

"Multivariate Models of Commodity Future Markets: A Dynamic Copula Approach" with Sihong Chen, Qi Li and Yu Yvette Zhang, *to be submitted*

We develop copula-based flexible multivariate dynamic models that allow for time-varying nonlinear and asymmetric dependence by integrating elliptical and skewed copulas with dynamic conditional correlation (DCC) and block dynamic equicorrelation (Block DECO). We apply our models to capture dependence structure of various US commodity futures across different sectors between 2004 and 2022; particular attention is paid to the 2008 financial crisis and the COVID-19 pandemic. Flexible copula models

that allow for multivariate asymmetry and tail dependence are found to provide the best performance in characterizing co-movements of commodity returns. We also find that the connectedness between commodities has dramatically increased during the financial distress and the COVID-19 pandemic. The impacts of financial crisis appear to be more persistent than those of the pandemic. We apply our models to some risk management tasks in the commodity markets. Our results suggest that optimal portfolio weights based on dynamic copulas have persistently out-performed the equal-weighted portfolio, demonstrating the practicality and usefulness of our proposed models.

"Human Capital Spillover, Migration, and Land Policy" with Xintong Yang and Qi Li, *to be submitted*

We observe that regions with higher levels of human capital experienced larger scales of immigration and house price appreciation in China. We find there is a positive correlation between the share of college students and immigration flow within a city, especially for cities with high GDP per capita. We also consider the negative effect of human capital on housing prices, and develop a two-region dynamic general equilibrium model to rationalize the empirical facts. The model implies that tight land policies might hinder the economic growth by jeopardizing the human capital agglomeration.

WORKS IN PROGRESS

"Controlling Interactive Fixed Effects of Panel Data Models Using Diversified Projections" with Hongjun Li, Kunpeng Li and Qi Li

This paper utilizes the diversified projection method to control interactive fixed effects for panel data models by using the spirit of weighted averages. A new method with the combination of cross-sectional projections and a simple profile least squares method is proposed. Under both strong and slightly weak factor assumptions, the slope coefficient is shown to be $\sqrt{NT}$ consistent for large N and large T. The asymptotic distribution is insensitive to the serial correlations due to cross-sectional projections. The estimation results are also robust to over-estimating the number of factors.

"Panel Smooth Transition Regression Model with Interactive Fixed Effects" with Kunpeng Li and Qi Li

This paper deals with the estimation in panel data models with both interactive fixed effects and smooth threshold effects. The asymptotic theories of the parameters of interest are derived. Besides, we also provide a test on the existence of smooth threshold effects.

TEACHING

Instructor

- Economic Forecasting (ECMT 475, Undergraduate, Evaluation: 4.45/5) — Spring 2020

Teaching Assistant (Recitation Instructor)

- Econometric I (Ph.D. Core Course) — Fall 2021
- Math/Stat Camp (Ph.D.) — Summer 2019, 2020
- Econometric Analysis of Financial Data (Master) — Fall 2019, 2020, 2021, 2022
- Financial Econometrics (Master) — Spring 2018, 2021, 2022
- Economic Forecasting (Master) — Spring 2019
- Economic Analytics (Master) — Fall 2017, 2018

OTHER RESEARCH EXPERIENCE

Research Assistant Oct 2016 - May 2017

- The Bush School of Government and Public Service, Texas A&M University

FELLOWSHIPS AND AWARDS

- Department of Economics Incentives for Excellence Scholarship, Texas A&M University Fall 2022
- Department of Economics Research Fellowship, Texas A&M University Spring 2020
- Department of Economics Graduate Assistantship, Texas A&M University 2017-Present
- Department of Economics MS Grad Scholarship, Texas A&M University 2015-2016

CONFERENCE PRESENTATION

Texas Econometrics Camp Feb 2022

REFEREE EXPERIENCE

China Economic Review, Economics Letters, Econometric Reviews

SKILLS

- Proficient in R, MATLAB, LaTeX, STATA
- Languages: English (fluent), Chinese (native)

REFERENCES

Dr. Qi Li (Chair)
Department of Economics
Texas A&M University
qi-li@tamu.edu

Dr. Yonghong An
Department of Economics
Texas A&M University
yonghongan@tamu.edu

Dr. Zheng Fang
Department of Economics
Emory University
zheng.fang@emory.edu

Dr. Ximing Wu
Department of Agricultural Economics
Texas A&M University
xwu@tamu.edu

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