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Education

The University of Chicago, Booth School of Business and the Department of Economics
Ph.D. Candidate, Joint Program in Financial Economics, 2012 - 2018 (expected)

Tsinghua University, School of Economics and Management, 2008 - 2012
B.A., Economics and Finance (with honor)

Undergraduate Exchange Study, the University of Pennsylvania, Wharton School, Fall 2010

References

Lars Peter Hansen (Co-chair)
The University of Chicago
773-702-8170
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Zhiguo He (Co-chair)
Booth School of Business
773-834-3769
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Douglas Diamond
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773-702-7283
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Bryan Kelly
Booth School of Business
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Research and Teaching Fields

Primary: Financial Intermediation, Networks in Economics
Secondary: Empirical Asset Pricing, Financial Econometrics

Job Market Paper

Interbank Runs: A Network Model of Systemic Liquidity Crunches [View]

Abstract: I study how interbank lending network structures affect financial fragility. In interbank runs, banks mutually reinforce each other to withdraw interbank lending. Unlike the other liquidity crisis models, banks' precautionary liquidity hoarding strategies are linked by the pre-existing interbank lending connections. I show such dispersed and indirectly linked interactions also lead to discontinuous and system-wide liquidity crunch. Local insolvency shocks trigger interbank run, if the network is unraveled beyond a critical point. In that case, interbank lending drops, banks self-insure by hoarding liquid assets, social real investments evaporate. The model is applied to identify the critical banks for capital injection during bailouts, and study the systemic effects of the proposed regulations on restraining the highly connected banks.

Research Papers

Some Characteristics Are Risk Exposures, and the Rest Are Irrelevant [View]
with Bryan Kelly and Seth Pruitt

Abstract: We use a new method to estimate common risk factors and loadings in the cross section of asset returns. The method, Instrumented Principal Components Analysis (IPCA), allows for time-varying loadings in a latent factor return model by introducing observable characteristics that instrument for the unobservable dynamic loadings. If the characteristics' expected return relationship is driven by compensation for exposure to latent risk factors, IPCA will identify the corresponding latent factors. If no such factors exist, IPCA infers that the characteristic effect is compensation without risk and allocates it to an "anomaly" intercept. Studying returns and characteristics at the stock-level, we find that three IPCA factors explain the cross section of average returns significantly more accurately than existing factor models and produce characteristic-associated anomaly intercepts that are small and statistically insignificant. Furthermore, among a large collection of characteristics explored in the literature, only seven are statistically significant in the IPCA specification and are responsible for nearly 100% of the model's accuracy.

Instrumented Principal Component Analysis [View]
with Bryan Kelly and Seth Pruitt

Abstract: We propose a dynamic latent factor model in which the factor loadings are time-varying. Motivated by various economic theories, each item's loading is a function of the item's time-varying instrumental information plus error. Instrumented Principal Components Analysis (IPCA) estimates the model by optimizing the sample mean squared errors, and admits analytical solution based on singular value decomposition similar to PCA. In addition, the method is more parsimonious, accounts for more economic information, and deals with missing observation better than PCA. We show consistency and the asymptotic distribution of the estimators. An application to international macroeconomics suggests that a nation's import share, gross capital formation share, and overall level of GDP drive its relationship to a global growth factor, whereas population density does not.

The Reflection Channel of Shock Transmission in Production Networks [View]

Abstract: This paper studies the general equilibrium effects of industry-specific productivity shock in an economy in which sectors are connected via input-output linkages. My central finding is productivity shocks do not only travel downstream as is standard in the literature, but also trigger demand change at the final consumption industries, which propagates upstream. I label this novel mechanism "reflection channel". Differences of the elasticity of substitution of consumption and production for the final consumption industries drive the demand change. Empirically, the magnitude of the reflection channel is around three times greater than the previously studied downstream channel. When a positive productivity shock reaches a final consumption industry, consumers substitute towards it much more than producers substitute away, increasing the demand of its upstream industries, and vice versa.

Teaching Experience

Winter, Summer 2016	Investments (MBA) Teaching Assistant for Professor Bryan Kelly
Winter 2015	Investments (MBA) Teaching Assistant for Professor Michael Weber
Winter, 2014	Theory of Income (PhD) Teaching Assistant for Professor Nancy Stokey

Honors, Scholarships and Fellowships

The Theodore W. and Esther Schultz Economics Fellowship (2017 - 2018)
Financial Economics / Social Sciences Fellowship (2014 - 2017)
Department of Economics / Social Sciences Fellowship (2012 - 2014)
China National Scholarship (2011)

Professional Activities and Presentations

2017: Third Annual Conference on Network Science and Economics (WUSTL), 10th Annual Society for Financial Econometrics (SoFiE) Conference (NYU), 2017 CITE Conference (Chicago)
2016: Trans-Atlantic Doctoral Conference (LBS), Macro Financial Modeling Summer Session for Young Scholars, NBER Summer Institute, New Developments in Measuring and Forecasting Financial Volatility (Duke),

Pre-Graduate School Working Experiences

Morgan Stanley Huaxin Securities, Fixed Income Division, Summer Analyst, Shanghai, Summer 2011
CITIC Securities, Equity Research, Intern, Beijing, Summer 2010

Personal Information:

Date of Birth: Sep. 2, 1990, Male, Chinese Citizen

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