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Department of Economics
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Gender: Female
Nationality: China

Academic Position:

Associate Professor of Economics
January-May 2015: Visiting Professor at UC Berkeley
September-December 2012: Visiting Professor at Yale University (Cowles fellowship)
September 2009: Lecturer (Assistant Professor) of Economics, London School of Economics

Education:

Ph.D. in Economics, Harvard University, 2009
B.A., Economics, Harvard College, 2004
Thesis Title: "Essays on Global Capital Flows, Asset Prices and Portfolio Views of External Adjustment "

Teaching and Research Fields:

Primary fields: International Finance, Macroeconomics
Secondary fields: International Trade, the Chinese Economy

Teaching

Global Macroeconomics (Executive Education program), International Macroeconomics and Finance (PhD program), International Macroeconomics (undergraduate), Advanced Economic Analysis---Macroeconomics (undergraduate)

Honors, Scholarships, and Fellowships:

2016-2019	ESRC Grant
2012	Cowles Fellowship, Yale University
2008-2009	Chiles Fellowship
2008-2009	NBER Aging and Health Fellowship
2008-2009	Harvard GSAS Dissertation Fellowship
2004-2006	Harvard University GSAS Scholarship
2004	Allyn Young Thesis Prize in Economics

Papers:

"Optimal Trade Policy with International Technology Diffusion" (with Yan Bai, Dan Lu, and Hanxi Wang), February 2024, NBER working paper 32097, *submitted.*

We study optimal dynamic trade policies in an Eaton-Kortum model with technology diffusion through trade. The process of innovation and diffusion is one in which new ideas are combined with insights from others. Trade thus affects technology by determining the distribution from which producers draw their insights. Our theory shows that optimal policies capture a dynamic motive for a country to alter global technology. These policies take into account selection effects, country endowments, and other alterations to trade patterns that affect the degree and quality of diffusion. We provide explicit formulas showing that a Home country would like to subsidize imports from places that improve the quality of learning at Home; or lower its export tax to another country if a) higher productivity in that country is good for the Home, and b) more exports to that country improve the quality of learning and, in turn, the country's technology. We also calibrate the model using cross-country data and quantify dynamic trade policies and their attendant welfare implications.

"Technological Rivalry and Optimal Dynamic Policy in an Open Economy" (with Yan Bai and Dan Lu), September 2023, NBER working paper 31703, *submitted.*

What are a country's policy options in the face of emerging technologies development in a global economy? To answer this question, we examine optimal dynamic policies in an open economy where technology is endogenously accumulated through R&D innovation. Our key insight is that a country has incentives to influence foreign innovation efforts across sectors and over time---giving rise to optimal policies even when the private innovation allocations are (Pareto) efficient. We derive explicit expressions for optimal taxes linked to both an intratemporal and an intertemporal motive to manipulate foreign technology. A country would want to levy higher tariffs in sectors in which it has a comparative advantage, at the same time invoking domestic innovation subsidies during transition. By contrast, optimal policies under exogenous technology call for uniform tariffs across sectors and no innovation policies.

"Misallocation under Trade Liberalization" (with Yan Bai and Dan Lu), April 2023, forthcoming, ***American Economic Review***

This paper formalizes a classic idea that in second-best environments trade can induce welfare losses. In a framework that incorporates distortion wedges into a Melitz model, we analyze a channel in which trade can reduce allocative efficiency arising from the reallocation of resources. A key aggregate statistics that captures this negative selection is the gap between input and output shares. We derive sufficient conditions for welfare loss due to trade under important distributions. Using Chinese manufacturing data for the period 1998-2007, we show that welfare gains and productivity have qualitatively and quantitatively large departures from those predicted by standard models of trade.

``The One-Child Policy and Chinese household savings", (with Nicolas Coeurdacier and Taha Choukhmane), Jan 2023, **Journal of European Economic Association.**

This paper analyzes the impact of the `one child policy' in China on its household saving behavior. First, it develops a life-cycle model with endogenous fertility, intergenerational transfers and human capital accumulation. We show a macroeconomic and a microeconomic channel of a fall in fertility on raising aggregate household saving: at the macroeconomic level, the population composition shifts initially towards the middle-aged---the high savers of the economy. At the microeconomic level, (1) expenditures of children fall---despite higher education investment in each child---as quantity substitutes for quality; (2) middle-aged save additionally for retirement in anticipation of reduced transfers from their only child. Second, our quantitative model implies policy-induced changes in aggregate savings and age-saving profiles broadly consistent with estimates from Chinese household-level data. Third, an empirical study using the birth of twins as a source of exogenous increase in fertility is shown to support the micro-economic channels we highlight. Overall, our estimation suggests that the policy is able to account for at least 45-60% of the rise in household savings rate since its implementation in 1980.

The Puzzling Change in the Transmission of U.S. Macroeconomic Policy Shocks (with Ethan Ilzetzki), May 2021, volume 130, ***Journal of International Economics***.
We present two empirical conundrums on the nature of international policy transmission. First, there has been a qualitative shift in the impact of U.S. monetary and fiscal policy shocks on other economies after 1990. Second, the reactions to monetary shocks are particularly difficult to reconcile in a standard new open-economy model, even with several significant modifications to the benchmark model. These findings raise a challenge to the standard international transmission mechanism that form the basis of welfare analyses and policy prescriptions.

"International Transmission with Heterogeneous Sectors" (with Nan Li), ***American Economic Journal: Macroeconomics,*** October 2018.
This paper documents new facts about the behavior of capital and labor-intensive goods over the business cycle. It illustrates a new transmission mechanism of international business cycle shocks through their relative prices. In a two-country stochastic growth model that distinguishes sectors by factor intensity, productivity shocks lead to changes in the composition of production and trade across countries. An endogenous mechanism that arises through these compositional changes bring about positive investment and output comovement across countries. Evidence supporting the central propagation mechanism includes: (1) labor-intensive production and employment are highly procyclical among OECD economies (2) the relative price of capital-intensive to labor-intensive goods is procyclical and volatile (3) the net exports of capital-intensive sectors of the U.S to European economies are more countercyclical than labor-intensive sectors. Our quantitative results can match aggregate statistics and generate empirically plausible sectoral compositional effects.

``Credit Constraints and Growth in a Global Economy''(with Nicolas Coeurdacier and Stephane Guibaud), ***American Economic Review,*** September 2015.
Two contributions of this paper are: (1) documenting new facts about the behavior of capital and labor-intensive goods over the business cycle; (2) illustrating a new transmission mechanism of international business cycle shocks through the relative price of capital to labor-intensive goods. In a two-country stochastic multi-sector growth model, an endogenous mechanism arising from compositional changes and international trade can bring about positive investment and output comovement across countries. We show that essential segments of the transmission process receive strong empirical support. Also, quantitative predictions of our model can match aggregate statistics and generate empirically plausible sectoral compositional effects.

``Fertility Policies and Social Security Reforms in China'' (with Nicolas Coeurdacier and Stephane Guibaud), ***IMF Economic Review,*** September 2014.
This paper analyzes the impact of relaxing fertility controls and expanding social security in China. We develop an overlapping generations model in which fertility decisions and capital accumulation are endogenously determined in the presence of social security. In our model, children are an alternative savings technology—as they transfer resources to their retired parents. Important feedback links arise between fertility and social security variables: an expansion of social security benefits reduces fertility— partially offsetting the effects of relaxing the one-child policy. The feedback loop between social security variables and fertility suggests that abandoning fertility restrictions may not be as effective in helping to finance China's intended pension reform, especially if children are an important source of old-age support. The sustainability of the pension system is particularly at risk in the event of a growth slowdown. The objective of pension reforms may also be incongruent with other reforms, such as financial liberalization and financial integration.

"Industrial Structure and Capital Flows", ***American Economic Review***, 102 (5): 2111-2146. 2012.

This paper provides a new theory of international capital flows. In a framework that integrates factor-proportions-based trade and financial capital flows, a novel force emerges: capital tends to flow towards countries that become more specialized in capital-intensive industries. This `composition' effect competes with the standard force that channels capital towards the location where it is scarcer. If the composition effect dominates, capital flows away from the country hit by a positive labor force/productivity shock---a flow ``reversal''. Extended to a quantitative framework, the model generates sizable current account imbalances between developing and developed countries broadly consistent with the data.

"Composition and Growth Effects of the Current Account: A Synthesized Portfolio View," (with Kai Guo), ***Journal of International Economics,*** 79(1): 31-41. 2009.
This paper analyzes a useful accounting framework that breaks down the current account to two components: a composition effect and a growth effect. We show that past empirical evidence, which strongly supports the growth-effect as the main driver of current account dynamics, is misconceived. The remarkable empirical success of the growth effect is driven by the dominance of the cross-sectional variation, which, under conditions met by the data, is generated by an accounting equation. In contrast to previous findings that the portfolio share of net foreign assets to total assets is constant in a country, both our theoretical and empirical results support a highly persistent process or a unit root process, with some countries displaying a trend. Finally, we reestablish the composition effect as the quantitatively dominant driving force of current account dynamics in the past data.

Current Working Papers

"Optimal Trade Policy with International Technology Diffusion" (with Yan Bai, Dan Lu and Hanxi Wang), October 2023.

We study optimal dynamic trade policies in an Eaton-Kortum model with technology diffusion through trade. Optimal trade policies encapsulate not only a standard terms of trade effect but also a dynamic motive to alter global technology. Diffusion occurs whenever a producer (domestic or foreign) sells to a country. Our theoretical analysis shows that optimal policies take into account selection effects, country endowments, and other alterations to trade patterns which affect the degree and quality of diffusion. Our results shows that a Home country may want to lower its export tax to another country if a) a higher productivity in that country is good for Home; and b) more exports to that country improves the quality of learning and in turn its technology. On the other hand, when higher imports from certain places improves the quality of learning at Home, it would like to subsidize such imports. We calibrate the model using cross-country data, and quantify dynamic trade policies and its attendant welfare implications.

"Technology Rivalry and Optimal Policy in an Open Economy" (with Yan Bai and Dan Lu), *submitted,* Sep 2023.

We study optimal policies in a multi-country, multi-sector model with endogenous technology accumulation through R&D innovation. There exist time-consistent optimal policies, which consist of innovation and trade policies, even when private innovation allocations are efficient. We derive explicit expressions for optimal policies and present general results for various specifications. The underlying mechanism is that a country has an incentive to use innovation policy and tariffs to affect foreign innovation efforts and technology, for both static and dynamic terms of trade consideration. By contrast, optimal policies under exogenous technology call for uniform tariffs across countries and sectors. Our quantitative analysis computes the optimal policies for China on the two-digit manufacturing sectors for a world with China, the U.S., Germany, Japan, and the rest of the world.

"International Technology Competition" (with Oleg Itskhoki)
We build a model of international technology competition in an industry with strong increasing returns to scale driven by fixed costs, customer network externalities, and customer data inputs. We study when a planner prefers entry of multiple firms versus one firm, trading off scale for lower markups. We further study when a local planner should ban entry of international dominant firms into the domestic market, trading off national producer surplus and market shares for lower consumer surplus. We then ask whether the strategy of open market in Europe and closed market in China were optimal from the point of view of respective national planners.

"The Evolution of Chinese Productivity" (with Tao Jin)
We develop a theory of firm dynamics that captures essential features of and differences between two types of firms, state-owned and private enterprises. The main differences are: 1) the state enterprises can borrow at a rate lower than the market rate; 2) private firms can decide optimally when to exit the market, while state firms can only exit when bankrupt. In this model, firms invest not only to accumulate capital, but also to raise their productivity (subject to idiosyncratic and aggregate shocks). We show that preferential treatment lends to perverse incentives: the state companies borrow to scale up whilst private firms are more incentivised to invest in productivity. Over time, state companies will fall behind in productivity, face more competition from private firms, and are consequently more likely to become bankrupt. We use this model to show how productivity across firms endogenously evolves and diverges over time in China. The model also captures other firm dynamics, such as the evolution of firm size, of the misallocation and reallocation of resources across firms, and the nature and characteristics of firm-withdrawals. The model explains a significant part of aggregate productivity growth in China over the period 1997-2007, and attributes half of the growth to productivity growth at the intensive margins. Counterfactual experiments show that absent preferential treatment, aggregate productivity in China would have been significantly higher.

Selected Seminar Presentations: Singapore National University, International Monetary Fund, the World Bank, London School of Economics. London Business School, INSEAD, Brown University, National Bureau of Economic Research, Harvard University, Paris School of Economics, Bank of England, Trinity College University of Dublin, University of Michigan, Fudan University, Hong Kong Chinese University, Tsinghua University, HKU, University of Minnesota, University of Wisconsin Madison, New York University, Yale University, Durham University Business School, Beijing University, Fudan University.

Selected Conferences: Conference on global macroeconomics, (February 2010), ESSIM (May 2010), NBER summer institute (2010), Econometric Society (2011), NBER summer institute (2011), Science Po Macro-Finance Conference (2011), SED (2011), Tsinghua Summer Macroeconomics (2011), SED (2012), New Developments in Macroeconomics (UCL 2012), Tsinghua grow policy conference (Jan 2015), SED (2015), SED (2017), IMF World Bank Meetings (2017), Tsinghua International macroeconomics (2018), Reinventing Bretton Woods Committee (2018), IMF World Bank Meetings (2019), Congress of the Catalan Economic Society (2019), Tshinghua AXA Conference (2019), NBER summer institute (2019), NBER summer institute (2020)

Book Chapters and Books
"The New China Playbook: Beyond Capitalism and Socialism", forthcoming, Viking.
"Trans-Sovereign Networks: China's Role in the Global Order", in *Bretton Woods@75*
"China's Steroid Model of Growth" in *Meeting Globalization's Challenges*, Princeton University Press.
``International Trade and Capital flows'' in *Encyclopedia of Financial Globalization*

Languages:

Bilingual in Chinese and English, fluent in French.