Firm Life-cycle Learning and Misallocation
[paper]
Dispersion in marginal revenue products of capital (MRPK) across firms may lower aggregate productivity through misallocation. Using firm-level panel data from China, I document that MRPK dispersion decreases substantially with firm age, particularly before age five. Building on this fact, I provide a new interpretation of MRPK dispersion as firm life-cycle learning. I formalize this idea in a dynamic model, in which firms learn about their fundamental productivity as they age and choose capital inputs in a frictional market based on their priors. Within each cohort of firms, imprecise priors lead firms to differ in their ex-post MRPK even in the absence of firm-level distortions. As firms learn over time and adjust their capital stocks, possibly through exiting the market, dispersion in MRPK decreases. Quantitative analysis of the model shows that omitting firm life-cycle learning leads to sizable overestimation of the aggregate productivity losses from misallocation.

Unemployment and Development, with David Lagakos and James Rauch
[NBER working paper] [Press coverage: VoxDev]
This paper draws on household survey data from countries of all income levels to measure how unemployment varies with income. We document that unemployment is increasing with GDP per capita. Furthermore, we show that this fact is accounted for almost entirely by low-educated workers, whose unemployment rates are strongly increasing in GDP per capita, rather than high-educated workers, whose unemployment rates are not correlated with income. To interpret these facts, we build a model with workers of heterogeneous ability and two sectors: a traditional sector, in which self-employed workers produce output without reward to ability, and a modern sector, in which firms hire in frictional labor markets and output increases with ability. Countries differ exogenously in the productivity level
of the modern sector. The model predicts that as productivity rises, the traditional sector shrinks as progressively less able workers enter the modern sector, leading to a rise in overall unemployment and in the ratio of low-educated to high-educated unemployment rates. A calibrated version of the model is quantitatively consistent with the cross-country patterns we document, including the unemployment rates by education and the employment share of the traditional sector.

**Development and Selection into Necessity versus Opportunity Entrepreneurship**, with Lindsay Rickey [paper]
It is well-known that self-employment rate declines with GDP per capita (Gollin, 2008). However, when dividing self-employment into employers and own-account workers (self-employed without employees), this paper documents that the labor share of employers increases with income levels, and the share of own-account workers decreases. Using household surveys from countries of all income levels, we show these facts are robust across main industries and educational categories. We also show nearly universal negative selection on ability into own-account status, and positive selection into employer and wage earning statuses in our data. We develop a simple two-sector model to explain these facts. In general equilibrium, agents with ability below a threshold become own-account workers in the traditional sector, and agents with ability higher than the threshold enter the modern sector, becoming wage workers or employers. Higher aggregate productivity is driven by higher returns to ability in the modern sector due to skill biased technological change, which reduces the threshold ability level. By distinguishing between own-account workers and employers consistently across 56 countries, our database and model help reconcile previous diverse findings about development and entrepreneurship.

**The Impact of Entrepreneurial Risk Aversion on Wages in General Equilibrium**, with James Rauch [NBER working paper]
One of the leading theories of entrepreneurship is that less risk averse individuals become entrepreneurs and more risk averse individuals become their employees. Kihlstrom and Laffont (1979) formalized this insight in an elegant and widely taught general equilibrium model. However, their model has not been further developed. A reason may be that their main comparative static result, that an economy-wide increase in risk aversion lowers the equilibrium wage, appeared to require the assumption that all agents had identical risk aversion index, throwing out their motivating insight and indicating that the model is intractable. In this note we prove this comparative static result on risk aversion and wages in general equilibrium, retaining agent heterogeneity in risk aversion and the endogenous division of agents into less risk averse entrepreneurs and more risk averse workers, without adding any assumptions not already in the original paper. Besides the intrinsic value of the result, we hope to increase the usefulness of the Kihlstrom and Laffont (1979) model for other researchers and to facilitate improvement in its exposition for the many graduate courses in which it is taught.

**Seminar and Conference Presentations**

2019  Cal State Fullerton, CityUHK, HKU, ITAM, NUS, PHBS, SAIF
2018  Tsinghua University, New Structural Economics Conference (Beijing), China Conference on Development and Growth (Wuhan, China)
2017  Midwest Macro Meeting (Pittsburgh), Econometric Society Asia meeting (Hong Kong), Econometric Society China meeting (Wuhan, China)
2016  6th GREThA International Conference on Economic Development (Bordeaux, France)
2015  FSU Workshop on Experimental Economics and Entrepreneurship (Tampa, USA)
Professional Activities

Leader, UC San Diego Women in Economics Mentoring Group 2014 - 2018
Co-organizer, UCSD Women in Economics Conference, with Shanthi Manian 2016

Referee Service

Journal of Development Economics

Relevant Experience

Teaching Assistant, Department of Economics, UC San Diego 2014-Present
Research Assistant for Prof. Jim Rauch and Prof. Marc Muendler, UC San Diego 2015-2016
Teaching Assistant, School of Mathematics and Statistics, Wuhan University 2013

Honors and Awards

Travel and Research Grants. UC San Diego 2015 - 2018
Best Graduate Student Research Seminar Presentation. Economics, UC San Diego 2017
C.Phil Fellowship. Economics, UC San Diego 2016
Temasek Foundation Leadership Enrichment and Regional Networking Scholar, Singapore 2012
National Fellowship, Ministry of Education, P.R. China 2011
Utility Model Patent (ZL 200720084248.6), State Intellectual Property Office of P.R. China 2008
First Prize in Wuhan Municipal Government Scholarship, Wuhan, China 2008

Other Information

Programming Skills: Stata, Matlab, Mathematica, SAS, Z-Tree
Languages: English (fluent), Chinese (native), French (intermediate)