# HANG HU

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#### Placement

Coordinator: Victor Andries

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### Education

Ph.D. Economics, University of Melbourne, expected March 2019.

Dissertation Title: "Input-Output Linkages in Macroeconomic Development and Growth"

Committee: Chris Edmond and May Li

M.A. Economics, University of Melbourne, 2014.

Bachelor of Commerce with Honours, University of Melbourne, 2013.

Majors: Economics and Finance.

Honours: First Class Honours in Economics.

#### Research Interests

Macroeconomics, Growth and Development, Trade

### References

Chris Edmond Professor of Economics University of Melbourne (+61) 03 8344 9733 cedmond@unimelb.edu.au May Li Senior Lecturer of Economics University of Melbourne (+61) 03 8344 5316 shuyunl@unimelb.edu.au

Mei Dong Associate Professor of Economics University of Melbourne (+61) 03 8344 1209 mei.dong@unimelb.edu.au Bruce Preston Professor of Economics University of Melbourne (+61) 03 8344 9824 prestonb@unimelb.edu.au HANG HU

## Academic Experience

Department of Economics, University of Melbourne

Research Assistant, Ross Garnaut, December 2015–July 2017.

Research Assistant, Lauren A. Johnston, December 2015-July 2017.

Teaching Assistant, Managerial Economics (Master), 2015-2018

Teaching Assistant, Macroeconomics (Undergraduate), 2016-2017

Teaching Assistant, Advanced Econometric Techniques (Master and Honours), 2015

Teaching Assistant, Quantitative Methods (Undergraduate), 2014

### Conference and Seminar Presentations

2018: Midwest Macroeconomic Meeting (Vanderbilt University); 13th Economics Graduate Students Conference (Washington University in St. Louis); 1st GEP-China Workshop on Advances in Economic Research (University of Nottingham Ningbo); Midwest International Economic Development Conference (University of Minnesota); Pacific Conference for Development Economics (UC Davis); Department Brown Bag (University of Melbourne); PhD Macro Brown Bag (University of Melbourne)

2017: Asian and Australasian Society of Labour Economics Inaugural Conference (Australian National University); PhD Macro Brown Bag (University of Melbourne); PhD Brown Bag (University of Melbourne)

# Invited Workshop and Conference Discussions

"Fiscal Devaluations: The Role of The Composition of Government Expenditures", by Qingyuan Du, Pedro Gomis-Porqueras, Solmaz Moslehi, and Chung Tran, Macroeconomics Development Conference at Deakin, 2018

"Oil Price Volatility, Financial Institutions, and Economic Growth", by Uchechukwu Jarrett, Midwest International Economic Development Conference, 2018

"Allocation of Female Talent and Cross-Country Productivity Differences", by Munseob Lee, Pacific Conference for Development Economics, 2018

### Summer Camps

The Becker Friedman Institute Chicago Price Theory Summer Camp, The University of Hong Kong, 2018

Summer School on Social and Economic Networks, Monash University, 2018

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### Honors, Awards, & Fellowships

PhD Fellowship, University of Melbourne, 2014-current.

FBE Graduate Research Abroad Travelling Scholarship (FBE-GRATS), University of Melbourne, 2018

Conference Travelling Grants, University of Nottingham Ningbo, 2018

Department PhD Travelling Scholarship, University of Melbourne, 2017-2018

### Computer Skills and Languages

Computer Skills: Matlab, Stata, LATEX

Languages: English (Fluent), Chinese (Native)

### Research

### Job Market Paper

Structural Change with Endogenous Input-Output Linkage

Abstract: Do sectoral reallocations of value-added depend on input-output linkages? This paper proposes a new mechanism for structural change through outsourcing of intermediate-inputs (I-I). I build a multi-sector general equilibrium model, featuring endogenous input-output linkages, nonhomothetic CES preferences and technology, and heterogeneous firms. As relative outsourcing cost changes, sectors which demand external outsourcing (I-I demand) shed labor, while sectors which supply external outsourcing (I-I supply) absorb labor. The model is structurally calibrated using panel data from 35 major economies during 1995-2007. The quantitative results suggest that (i) I-I supply effects are at least comparable to mechanisms in the literature, such as price effects due to sector-biased technological change; (ii) I-I demand effects are less critical due to stable I-I demand intensity; (iii) about half of the structural change attributes to rising comparative advantage of supplying I-I by services relative to by manufacturing.

### Working Papers

Input-Output Linkages and Productivity Measurement

Abstract: This paper studies the role of input-output (IO) linkages in sectoral and aggregate productivity measurement for 39 countries during 1995-2007. The main finding is that without taking IO linkage into account, development accounting (DA) method biasedly measure the sectoral TFP and sectoral labor productivity for all sample countries. For aggregate TFP, the quantitative analysis result suggests that compared with IO based measurement, DA method overestimates annual aggregate TFP growth rate by about 15 percent for the US and underestimates that by about 9 percent for China. For the 39 sample countries on average, DA underestimates the annual aggregate TFP growth rate by about a half percent. Moreover, the counterfactual study implies that previous studies are either insufficient to taking IO linkage into account, or totally ignore IO linkage which results in biased productivity measurement and implication.

#### Work in Progress

#### Structural Change in Global Value Chains

Abstract: In this paper, I extend my job market paper to a global context. Given global sourcing of intermediate-inputs (I-I), I examine to what extent the I-I supply mechanism accounts for domestic structural change. I study this question both empirically and quantitatively. For the empirical study, the regression results suggest that the I-I supply mechanism holds. For the same and recent World Input-Output Database 2016, the positive association between structural change and I-I supply mechanism holds in all of the 29 two-digit sectors. It also holds in 40 out of 44 major economies. To quantify the I-I supply mechanism, I develop a multi-stage, multi-country and multi-sector general equilibrium model. This model is developed by integration of two strands of literature: multi-sector and one-stage Eaton-Kortum trade (Lorenzo and Parro 2015); one-sector and multi-stage Eaton-Kortum trade (Antras and de Gortari 2017). The model features horizontal integration through sourcing finished I-I in a given stage; also features vertical integration through sourcing unfinished I-I from precedent stages.

#### Secular Structural Change, Marketization, and Rising Long-Run US Skill Premium

Abstract: This paper studies the rising skill premium in the US since 1950. During this period, both the relative supply and demand of high-skill to low-skill workers arise dramatically. I seek to understand the rise of quantity and price premium through two mechanisms: structural change and service marketization. I argue that since 1950, the US economy experiences strong structural change from agriculture and manufacturing to services. On the one hand, rising relative price and growing income make consumer willing to consume more services than goods. On the other hand, manufacturing and agriculture companies increase domestic outsourcing of non-core service activities to specialized service contractors. Both the consumer side channel and the producer side channel favor services, rather than goods. Moreover, due to technological development and declining outsourcing cost, the opportunity cost of producing at home shifts up drastically. Henceforth consumer has the incentive to outsource more and more home production to specialized service companies in the market. As a result, within services, market service arises relative to home production. Since market service is the most intensive use sector of high-skill workers, these two mechanisms push up relative demand of high-skill to low-skill workers. This raises wage premium. Rising wage premium gives the incentive to supply relatively more high-skill to low-skill workers in the labor market. I construct a multi-sector general equilibrium model with interaction of skill heterogeneity, home production, endogenous consumer service choice and upward-sloping skill supply.