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RESEARCH INTEREST Family Macroeconomics and Public Policies, Development and Inequality, Labor Economics, Population Aging, and Demographic Changes.

EDUCATION **University Of New South Wales**, Australia
Ph.D. in Economics, 2024
Dissertation: *Fertility and Human Capital Investment in Developing Countries*
Advisors: Professor John Piggott, Dr. George Kudrna, Professor Isabella Dobrescu

National Graduate Research Institute for Policy Studies, Japan
M.A. in Public Policy, 2015
M.A. in Macroeconomics, 2012

Foreign Trade University, Vietnam
B.A. in Economics, 2005

APPOINTMENT **School of Business, University of New South Wales, Australia**
Early Career Academic Fellow, 2024 – Now

CEPAR, University of New South Wales
Research Assistant, 2020 – 2023

GRIPS, Tokyo, Japan
Visiting Researcher, March 2023

Asian Development Bank Institute, Tokyo, Japan
Research Associate, 2018 – 2019

Banking Academy, Hanoi, Vietnam
Lecturer, 2010-2020

JOURNAL ARTICLES

1. *Macro-Demographics and Ageing in Emerging Asia: the Case of Indonesia*, **Journal of Population Ageing** (with George Kudrna and John Piggott), vol. 15, pp. 7 - 38, <http://dx.doi.org/10.1007/s12062-022-09358-6> (2022).
2. *Fertility Decisions and the Norm of Intergenerational Support to Aging Parents*, **International Studies of Economics** (with Minchung Hsu) (2023).

JOB MARKET PAPER *Fertility and Human Capital Investment in Developing Countries: The Role of Intergenerational Transfers* (with George Kudrna and John Piggott)

We examine the impact of the social norm of intergenerational support to aging parents on fertility and education investment decisions in developing economies. For that purpose, we develop a life cycle model with endogenous fertility and education investment choices and incorporate the expectation of transfers from children based on the social norm. Utilizing household survey data from Indonesia, we estimate earnings profiles and uncertainties over the life cycle to capture the financial constraint that parents face and the transfers from adult children to parents which indicates the current strength of the norm in the 2000s. The model is estimated to match the key moments in fertility and education. To further explore the impact of the social norm on fertility and education decisions, we then conduct counterfactual experiments and show that a weakening of the norm could reduce the fertility rate and have a significant impact on educational attainment. Overall, the findings highlight the importance of considering the role of intergenerational transfers in shaping fertility and education decisions and explaining intergenerational education mobility in developing economies.

How is low fertility associated with low income? In this paper, I propose an explanation for this puzzle in the interactive effects of two particular market failures: (i) borrowing constraint - the restricted access to the financial market; and (ii) property right constraint - the limited right of parents over children's income. I construct and analyse a life cycle model of endogenous fertility, education investment, and two-sided intergenerational transfer in the context where both constraints are present. The analysis shows that lower-income families are more likely to face the restrictions, which significantly dampens fertility and education to inefficiently low levels. This result suggests that at the aggregate level, a low fertility rate associated with low income reflects the status of a poor society struggling against the binding. Although the observable distortion is ruled by either one constraint that exerts the dominant impact, the other is still silently active in tandem. As a result, a policy addressing fertility-related inefficiency must take into account the existence of both frictions.

The Labor Market Friction and Education Investment in Developing Countries

In this paper, I take a deeper dive into labor market dynamics, further enhancing our understanding of the multifaceted factors shaping parental decisions in developing economies. I first document the highly persistent informal sector, the earning gap between the formal and informal sectors, and the effect of parents' social network (using the working sector status of the parents as a proxy) on the children's occupation. I show that inequality in the opportunity to secure a good job (particularly in the formal sector) distorts education investment because it creates differing returns to education. When measures are taken to improve equality in job opportunities, education investment increases, particularly for children with parents working in the informal sector.

Consumption Inequality and Risk Sharing over the Life Cycle in Developing Economies: Informal Employment and the COVID-19 Crisis (with Minchung Hsu, Mutita Ariyavutikul, and Sawatruckiat Trisukon), **Under R&R in Review of Development Economics.**

This study examines consumption and earnings inequalities over the life cycle in developing countries, focusing on the differences between formal and informal worker households. We use data from Thailand, Indonesia, and Vietnam to explore how these inequalities change with age and assess the level of risk sharing available in these economies and compare the patterns with developed countries like the U.S. Key findings include that consumption inequality is not consistently lower than earnings inequality among younger formal-worker households in these countries, indicating limited capabilities to insure against earnings risk. In contrast, among informal-worker households, the life cycle inequality of earnings and consumption is flatter, with consumption inequality generally lower than earnings inequality. This suggests a higher degree of risk sharing among informal workers, despite their lack of employment protection and government-provided welfare. The puzzling finding underscores the need for a deeper dive into the risk-sharing mechanisms among informal-worker households in developing economies. Additionally, the study investigates the impact of the COVID-19 pandemic by utilizing the recent Thai survey data and finds a significant increase in earnings and consumption inequality among younger households.

WORK IN PROGRESS	<p><i>The Fall in Fertility: Does Social Norm Matter?</i></p> <p>Over the past six decades, fertility rates have declined significantly across most middle- and low-income countries. To better understand these trends, we develop a quantitative model that integrates endogenous human capital and fertility decisions, while incorporating social norms related to filial piety—specifically, the obligation to support aging parents. This enhanced model aims to capture the observed dynamics of fertility and intergenerational transfers in middle- and low-income countries.</p> <p><i>Life-Cycle Profiles of Earnings of Formal and Informal Employments</i> (with Minchung Hsu)</p> <p>We examine income patterns across the lifespan in developing economies, encompassing both formal and informal employment sectors. We utilize panel survey data from Indonesia and Vietnam, where over 70% of the workforce engages in informal work. Following Deaton's (1997) methodology, we construct a regression model to estimate earnings profiles across the life cycle, considering employment type, cohort, and year effects. Additionally, we explore the significance of disparities between formal and informal employment patterns. To enhance the reliability of our findings, we employ various robustness checks, including propensity score matching to address potential sampling bias and an instrumental variable (IV) approach to mitigate selection bias attributed to unobservable characteristics. Our analysis reveals that earnings profiles in both formal and informal employment sectors exhibit a concave trajectory, mirroring trends observed in developed economies. However, earnings growth in these developing nations is comparable to, but lower than, that in developed counterparts. Furthermore, we observe infrequent transitions between formal and informal employment, particularly from the informal to formal sector. Despite this, a substantial and consistent wage premium exists in formal sector employment in both countries.</p>
TEACHING	<p>School of Economics, University of New South Wales Lecturer in charge, Econometrics (PG), 2024 Co-Lecturer, Introductory Econometrics (UG), 2023 Instructor, Macroeconomics Seminar (PG), 2022 Tutor in Charge, Introductory Econometrics (UG), 2020-2022 Tutor, Macroeconomics 1 (UG), 2020-2023 Tutor, Macroeconomics 2 (UG), 2020-2023</p> <p>School of Economics, University of Sydney Tutor, ECOS3997 Interdisciplinary Impact in Economics (UG), 2022-2023 Stream 1 — Economic Inequality Stream 2 — Conflict and Economic Development Tutor, ECOS3010 Monetary Economics (UG), 2022 Tutor, ECON5007 The Economics of Financial Markets (UG), 2022</p> <p>Banking Academy, Hanoi, Vietnam Lecturer, International Economics (UG), 2010-2020</p>
GRANTS	<ol style="list-style-type: none"> UNSW Business Sustainable Development Grant, 2023 (AUD 4,000) UNSW Tuition Fee Exemption for Ph.D. Program, 2019 - 2023 Economic Research Institute for ASEAN and East Asia Grant, 2019 (USD 8,000)
HONORS AND AWARDS	<ol style="list-style-type: none"> Scientia Scholarship for Ph.D. program, UNSW, Australia, 2019-2023 MEXT Scholarship, Tokyo, Japan, 2013-2015 IMF-Japan Scholarship, Tokyo, Japan, 2011-2012 Best Policy Paper, GRIPS, Tokyo, Japan, 2019 Scholarship sponsored by Posco Group for Excellent Study Performance

	6. Odon Vale Honor Scholarship for Excellent Study Performance
	7. Great Eastern Singapore Scholarship for Excellent Study Performance
	8. Scholarship for Excellent Study Performance sponsored by Ministry of Education (2006, 2007, 2009)
	9. Achieved full score (30/30) and attained the 1st rank for the National University Entrance Examination
BOOK CHAPTERS	1. <i>Sectoral and Skill Contributions to Labor Productivity in Asia</i> , (with Matthias Helble and Long Trinh), Leveraging Services for Development: Prospects and Policies, ADB Press (2019).
	2. <i>Trade Balance in Face with Aging Population: Japan Experience</i> , (with Yoshino Naoyuki), Studies in International Economics and Finance, Springer (2022).
MEDIA	1. <i>How a Spike in Trade in PRC Has Reduced Income Inequality in Vietnam</i> (with Matthias Heble and Long Trinh), Asian Development Blog , 2019.
	2. <i>The China shock and its impact on income inequality in Vietnam</i> (with Matthias Helble and Long Trinh), CERP VoxEU (2019).
	3. <i>Freer trade can raise living standards and bring down the prices of goods and services</i> , Asian Development Bank Institute (ADBI) Pod Cast (2019).
OTHER PUBLICATION	1. <i>The Impacts of Increased Import Competition from the People's Republic of China on Income Inequality and Household Welfare in Vietnam</i> , (with Matthias Helble and Long Trinh), ADBI Working Paper No. 864, (2018).
	2. <i>Global Value Chain and Formality in Vietnam</i> , (with Matthias Helble and Long Trinh), ERIA Working Paper No. 298, (2019).
CONFERENCES	2024 Australia Conference of Economists, Adelaide (July 2024).
	2023 Australia Gender Economics Workshop, Perth (Feb 2023); Western Economics Association International Annual Conference, Melbourne (May 2023); CEPAR International Conference, Sydney (July 2023); Econometric Society Australasian Meeting, Sydney (August 2023); Australia Ph.D. Conference, Melbourne (November 2023).
	2022 Western Economics Association International Annual Conference, Virtual (June 2022); Singapore Economics Review Conference, Singapore (Aug 2022); 30th Colloquium on Pensions and Retirement Research, CEPAR, Sydney (Nov 2022).
	2021 Western Economics Association International Annual Conference, Virtual (July 2021); 29th Colloquium on Pensions and Retirement Research, Sydney (Nov 2021).
	2018 “ <i>Labor in East Asia</i> ”, Economic Research Institute for ASEAN and East Asian (ERIA), Jakarta, Indonesia (July 2018); R. Anton Braun & Fumio Hayashi Workshop at Keio University, Japan (June 2018).
	2017 “ <i>Making Trade Inclusive: How to Manage Trade Adjustment</i> ”, Asian Development Bank Institute (ADBI), World Trade Organization (WTO) and Inter-American Development Bank (IADB), Tokyo, Japan (November 2017); Western Economics Association International Annual Conference, San Diego, The United States (July 2017).

INVITED SEMINARS	2024	"Gaps in Old-Age Provision and Other Protection Gaps" at Goethe University Frankfurt, Germany.
	2023	GRIPS – UT Macroeconomics and Policy Workshop, National Graduate Research Institute for Policy Studies, Japan.

LANGUAGES AND SKILLS English (advanced), Vietnamese (native), Japanese (beginner).
 Stata, L^AT_EX, MATLAB, R, SQL, EViews.

REFERENCES	Professor John Piggott	Dr. George Kudrna
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