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DOCTORAL STUDIES

London School of Economics And Political Science
MRes/PhD in Economics

Expected 2026

References

Prof. Daniel Sturm
Department of Economics
London School of Economics
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Dr. Thomas Sampson
Department of Economics
London School of Economics
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Dr. Clare Balboni
Department of Economics
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Dr. Catherine Thomas
Department of Management
London School of Economics
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PRIOR STUDIES

London School of Economics And Political Science M.Sc. in Econometrics and Mathematical Economics with <i>Distinction</i>	<i>2020</i>
University of Warwick M.Sc. in Economics with <i>Distinction</i>	<i>2019</i>
Beijing Institute of Technology B.Sc. in Vehicle Engineering	<i>2017</i>

RESEARCH INTERESTS

Primary: International Trade, Spatial Economics, Economic Geography
Secondary: Environmental Economics, Climate Change

JOB MARKET PAPER

Pollution Without Borders: Transboundary Air Pollution and the Geography of Pollutant Control Policy
(Joint with Antonio Avila-Uribe)

Abstract: Air pollution disperses across political boundaries, yet many environmental policies regulate specific polluted locations. This paper studies how cross-boundary transport of fine particulate matter (PM_{2.5}) changes the welfare effect and design of pollutant control policy in China. Using particle trajectory data from atmospheric transport models, we construct bilateral flow matrices that measure the transboundary air pollution in China. Three patterns emerge: (1) Transboundary pollution is heterogeneous across space, ranging from less than 10% to over 50% of local PM_{2.5} concentrations; (2) Bilateral pollutant transport networks remain stable over time, enabling long-term policy coordination without frequent recalibration; and (3) Economically developed provinces in China receive more transboundary pollution yet achieve larger pollution reduction. We develop a dynamic spatial general equilibrium model that incorporates pollutant transport, trade, and migration. Using this model, we estimate that transboundary air pollution creates a 1% national welfare loss relative to a counterfactual where pollution remains local. We evaluate China's Air Pollution Prevention and Control Action Plan and compare it to alternative allocation rules. Reallocating abatement to high-spillover upwind provinces based on marginal social welfare of emission tax improves aggregate welfare by 0.18% relative to the actual policy. The findings reveal welfare gains from accounting for spatial externalities in policy design.

WORKING PAPER

Trade Liberalisation, Informality and Gender Employment Gap: Evidence from Brazil

Abstract: This paper investigates whether and how trade shock impacts the gender employment gap in economies with large informal sectors. Leveraging regional variations in exposure to import tariff reductions during Brazil's 1990s trade liberalization, I find that female employment declines significantly in both medium and long terms, while male employment remains unchanged in the medium term but rises in the long term, widening the male-female employment gap in both periods. To better understand employment dynamics, I decompose the overall changes in employment into formal and informal sectors. In the formal sector, women face larger job losses than men, while in the informal sector, female employment remains largely unaffected and male employment rises. These empirical findings suggest that while trade shocks contract formal employment for both genders, the expanded informal sector serves as an employment buffer primarily for male workers. Further exploration of the mechanisms reveals that occupational segregation and child-care responsibilities limit women's ability to use informal employment as a buffer against job loss. These findings demonstrate how informality, gender-based sectoral sorting, and childcare constraints amplify gender inequality under trade liberalization.

WORKING IN PROGRESS

The Non-economic Effect of Trade: the International Spillover of Air Pollution (*Joint with Antonio Avila-Uribe, Ningyuan Jia*)

This paper examines the non-economic effects of international trade through international spillover of air pollution. We evaluate Japan's gains from trade following China's WTO accession while accounting for cross-border pollution externalities. Using particle trajectory data, we identify the causal effect of China-origin pollution on Japanese prefectural migration flows. A spatial model incorporating cross-border externalities is used to reassess the gains from trade in the presence of environmental spillovers.

The Economic Geography of Talent: Evidence from the China Initiative (*Joint with Jia Yang, Ningyuan Jia*)

This project examines how the China Initiative, a U.S. national security policy launched in 2018, reshaped the spatial distribution of Chinese-born researchers and skilled workers across firms and regions. Using online job postings, publication, and patent data, we analyze how heightened scrutiny prompted relocation across firms and regions, and reduced collaboration between U.S. and China-affiliated institutions. The project explores how geopolitical tensions and policy uncertainty reshape the geography of talent and innovation.

Digitizing the Supply Chain: Evidence from Indian Firms (*Joint with Animesh Jayant*)

We partner with an Indian tech provider that helps business to digitize input purchases and supplier records. Leveraging the platform's rollout and firm-level data, we examine how digital procurement affects supplier relationships, price pass-through, and network formation, and how these trade-channel effects influence productivity and product quality. The project illuminates how supply-chain digitalization can strengthen trade integration and quality upgrading.

Battling Emissions: Green Transition in Steel Industry (*Joint with Yuxiao Hu*)

Using detailed plant-level data, we assess the impact of China's 2019 green transition policy on the steel industry by examining (i) whether pollution has decreased around treated plants; (ii) and analyzing the policy's effects on the performance of steel firms.

POLICY

Adopt, adapt and improve: A brief look at the interplay between labour markets and technological change in the UK (*Joint with Rui Costa. The Economy 2030 Inquiry, The Resolution Foundation, November 2022*)

Summary: This analysis examines the UK labour market's response to technological waves over four decades. Findings reveal both positive and negative effects on jobs and pay, with impacts unevenly distributed across occupations and regions. Like globalization debates, policy should focus not on preventing valuable technological progress but on retraining workers at risk from automation. However, UK data show concerning trends: workers in routine roles, who are most exposed to automation, experienced the largest declines in on-job training and are more likely to hold low qualifications with non-transferable skills. Additionally, declining job mobility indicates most industry transitions now occur through entry/exit rather

than job-to-job moves.

Media coverage: [CityAM](#), [LSE Business Review](#)

RESEARCH EXPERIENCE

Research Assistant for Dr. Jose Vasquez, LSE

Mar. 2023 - Dec. 2023

work on “Trade with Nominal Rigidities: Understanding the Unemployment and Welfare Effects of the China Shock (Accepted by Journal of Political Economy)”

Research Assistant at Centre for Economic Performance (CEP) - LSE

Aug. 2021 - June. 2023

work on technology/brexit/net zero theme, *The Economy 2030 Inquiry*

Research Assistant for Dr. Fang Liu, University of Cornell

Dec. 2020 - Aug. 2021

work with textual data from the Wall Street Journal (WSJ) over 20 years, conducting textual analysis through topic modeling.

TEACHING

Econometrics I - Teaching Assistant

2025 - Present

Quantitative Approaches and Policy Analysis - Teaching Fellow

2023 - Present

Introductory Courses for Master of Public Administration - Teaching Fellow

2023, 2024

International Economics Summer School - Teaching Assistant

2023

Introduction of Econometrics - Teaching Assistant

2021, 2022

SEMINARS, CONFERENCE AND PRESENTATIONS

2025: LSE Economics of Energy and Environment seminar, LSE trade and urban seminar, GEP/CEPR post-graduate conference (declined), 8th ICCDS (SJTU Antai), CUHK Summer School of Asia in the Global Economy, UEA North America Annual Meeting

2024: LSE International trade seminar, Journal of International Economics Summer School, LSE trade and urban seminar

2023: LSE International trade seminar, Summer School in International and Development Economics on “Gender, Labour and Development”, LSE Economics of Energy and Environment seminar

SKILLS

Programming

Proficient in: STATA, Matlab, R, Python

Familiar with: Julia, SQL

Language

Mandarin(Native), English(Proficient), German(Basic)