

School of Social Sciences, University of Surrey

September 3rd - September 5th, 2025

Online Summer School on International Trade and  
Gravity Models

Two-Day Course in Gravity Modelling  
Followed by a One-Day Course in Topics on  
International Trade



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## 1 Introduction

The Centre for International Macroeconomic Studies (CIMS) at the School of Social Sciences, University of Surrey, will deliver a summer course on international trade, with a focus on gravity models and international trade frictions. The course will last for three days, and will be held online, during September 3rd - 5th 2025.

The first two days of summer school will introduce the theoretical background of the gravity equation, its main applications for economic policy, and the challenges faced in the estimation of the gravity equation using international trade data. Students will be introduced to the estimation of gravity models using different econometric approaches, including pseudo-maximum likelihood estimators. This part of course assumes basic knowledge of econometric methods and familiarity with basic Stata commands.

On day three the summer school will consist of three separate two-hour sessions on topics that will expand on issues related to international trade flows beyond the standard gravity equation approach. These include the impacts of income on international trade flows, and main features of North-North trade versus North-South trade, the economics of Brexit both from a short-run and long-run perspective, and economic warfare in a context of trade negotiations between symmetric and asymmetric trade partners.

Our summer school is suitable for PhD students and advanced masters students with a focus on international trade. It is also suitable for practitioners and policymakers working on international trade, with a special interest in applications of gravity models and in deepening their understanding of the determinants of trade flows.

## 2 Instructors

**Holger Breinlich** is a Professor of economics at the University of Surrey. He is also a Research Fellow at the Centre for Economic Policy Research (CEPR) and a Research Associate at the Centre for Economic Performance (CEP). His research interests are in the fields of international trade and applied econometrics. He has worked extensively on the economic effects of free trade agreements, on trade in services, and on the determinants of firm-level export patterns. Holger has also acted as a consultant or external academic advisor for a number of national and international bodies, including the European Union, the OECD, and the former UK Trade and Investment and BIS. He has given evidence to select committees in the House of Commons and the House of Lords on matters related to export promotion and trade in services. In 2019-20, Holger served as the representative of UK academia on the UK government's Strategic Trade Advisory Group. Holger received his PhD from the London School of Economics in 2006.

**Eric Golson** is an Associate Professor at the School of Social Sciences, University of Surrey. A researcher in the areas of trade and economic warfare, he has published most recently on small states trade activities in the Second World War. Prior to joining Surrey in 2016, Eric was a Research Fellow at the University of Oxford and a Teaching Fellow at the University of Warwick, Eric recently co-founded a network of international scholars devoted to Neutrality Studies with an International Political Economy focus. Eric previously taught at the LSE, Warwick, SOAS and Richmond University in London. He obtained his doctorate in Economic History from the London School of Economics in 2011. He holds an MA and BA from the University of Chicago.

**Esteban Jaimovich** is a Professor of Economics at the Department of Economics, University of Turin. He is also an Associate Member of the Theoretical Research in Development Economics network (ThReD). He completed his PhD in Economics at University College London in 2007. He was previously Assistant Professor in Economics at the Collegio Carlo Alberto in Turin, during 2007-2012, and joined the University of Surrey as Senior Lecturer in Economics in 2012 becoming Professor of Economics in 2023. His the research mainly focuses on the impact of income distribution on international trade, development economics and poverty persistence. He has published various articles covering those topics in the Journal of the European Economic Association, Economic Journal, Journal of International Economics, Journal of Development Economics and the European Economic Review.

**João Santos Silva** is a Professor of economics at the University of Surrey. He completed his PhD at the University of Bristol in 1992, and taught at the Technical University of Lisbon and at the University of Essex, before joining Surrey in 2015. João's research focuses on theoretical and applied econometrics, and he has published in a variety of academic journals, including the *Review of Economic Studies*, *Review of Economics and Statistics*, *Journal of Econometrics*, and the *Journal of International Economics*. João is also one of the proponents of the use of the Poisson pseudo maximum likelihood (PPML) estimator for the gravity equation for trade.

### 3 Course Timetable (BST)

#### Day 1 and Day 2 Schedule – Gravity Models in International Trade

09.30 am - 11.00 am: Session 1

11.00 am - 11.30 am: Break

11.30 am - 01.00 pm: Session 2

01.00 pm - 02.15 pm: Lunch

02.15 pm - 03.45 pm: Session 3

03.45 pm - 04.15 pm: Break

04.15 pm - 05.45pm : Session 4

#### Day 3 Schedule – Topics in International Trade Flows

09.00 am - 11.00 pm: Session 1

11.00 pm - 11.30 pm: Break

11.30 pm - 01.30 pm: Session 2

01.30 pm - 02.30 pm: Lunch

02.30 pm - 04.30 pm : Session 3

### 4 Gravity Models in International Trade: Theory and Estimation

This course will start by introducing the theoretical background of the gravity equation. It will then show how the gravity equation can be used to guide trade policy, and discuss its connection to free trade agreements and currency unions. Students will be introduced to the estimation

of gravity models using pseudo-maximum likelihood estimators. Computational aspects and extensions will be also discussed. The second day will end with a session where the instructors will answer questions about the topics covered in the course, or related topics that are of interest to the participants. These lectures will be given by Breinlich and Santos Silva over the first two days of the Summer School as follows:

- **Day 1 (3rd Sep): Introduction to the Gravity Equation**

Instructor: Holger Breinlich and João Santos Silva

- An introduction to the gravity equation and its theoretical foundations
- Estimating gravity equations and an introduction to PPML
- Further topics in gravity estimation; computational aspects and extensions
- Computing policy counterfactuals based on the gravity equation
- Data sources for gravity estimation (trade data and policy variables)

- **Day 2 (4th Sep): Estimation of Gravity Models using PPML**

Instructor: Holger Breinlich and João Santos Silva

- Applications of gravity: the effects of policy interventions
  - \* The impact of free trade agreements on trade flows
  - \* Currency unions and trade flows
- Applied computational issues in estimating gravity equations
- Computing policy counterfactuals using Stata
- Gravity clinic (Q&A session)

## 5 Topics in International Trade Flows

On the third day we will run three separate sessions on a variety of topics in international trade that complement the material covered during the two-day course in gravity models. These sessions are organised in blocks of two hours, and are meant to be self-contained. The instructors are Breinlich, Golson, and Jaimovich.

- **Day 3 (5th Sep): List of Sessions**

**Session 1 – The Economics of Brexit**

Instructor: Holger Breinlich

- Introduction to Brexit: a brief chronology of events, who voted for Brexit and why.
- The economic effects of Brexit

**Session 2 – Economic Warfare**

Instructor: Eric Golson

- Applied game theory of economic and trade warfare
- Weaponizing trade flows
- Historical cases of asymmetric trade negotiations
- Solution: international institutions

**Session 3 – Beyond Gravity: Income Distribution and Trade Flows**

Instructor: Esteban Jaimovich

- Income effects on trade flows (nonhomothetic demand and trade)
- North-South trade vs. North-North trade
- From inter-industry to intra-industry trade