



Data Science and Causal Inference Workshop 2025

The Department of Finance is pleased to host the Data Science and Causal Inference Workshop 2025. Over three days, participants will build a modern workflow in R and Git/GitHub and then apply core causal-inference tools, including strategies to address endogeneity, instrumental-variable estimation, fixed-effects models for panel data and difference-in-differences. The workshop blends lectures with live coding and hands-on exercises using real datasets, with plenty of time for questions, discussion and practical takeaways.

Dates:	2–4 September 2025
Time:	10:00–15:00 BST
Location:	Lecture Room 2, Gateway Building
Instructor:	Dr Christian Engels (ce50@st-andrews.ac.uk)

Agenda

Day 1: Data Science Fundamentals

10:00–10:30	Coffee and biscuits
10:30–12:30	Data Science in R with Visual Studio Code
12:30–13:00	Lunch break
13:00–15:00	Introduction to Git and GitHub

Day 2: Identifying Causality

10:00–10:30	Coffee and biscuits
10:30–12:30	Endogeneity
12:30–13:00	Lunch break
13:00–15:00	Instrumental-variable estimation

Day 3: Panel Data Methods

10:00–10:30	Coffee and biscuits
10:30–12:30	Fixed-effects regressions
12:30–13:00	Lunch break
13:00–15:00	Difference-in-differences



What to bring

Please bring your own laptop, and ahead of the workshop, please do the following:

1. Install [R](#)
2. Install [Visual Studio Code](#)
3. Install [Git](#)
4. Create a [GitHub account](#) (and note down login details)

On Day 1 participants will configure their Visual Studio Code installations and will be invited to join a private GitHub repository in order to access the workshop materials.

In case of issues in the installation process, support will be provided on the day. Additionally, an online computing environment will be provided as a fallback.

Useful resources

“Causal Inference: The Mixtape” by Scott Cunningham [\[online\]](#)

“R for Data Science” by Hadley Wickham, Mine Çetinkaya-Rundel and Garrett Golemund [\[online\]](#)