

# Q-Step: Week 1 Lecture

## Introduction to Q-Step (+ Research Design)

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# Roadmap

- What is the course about?
- Why Stats?
- How is it organized?
- What will you learn in 8 weeks?
- Today's Topic: Research Design

# What is Q-Step all about?

- Q-Step Centres across the country offer undergraduate students training on Quantitative Methods
- The Oxford Q-Step Centre is one of those centres
  - ▶ First and Second Year Modules (+ Thesis)
  - ▶ During your first year all PPE and HPOL students are expected to attend 8 Lectures and 4 Lab Sessions
  - ▶ During your second year, those who choose politics will attend a lecture and 7 lab sessions.
  - ▶ At the end of year 1 you will be delivering an essay with your own statistical analysis
  - ▶ Similar assessment in the second year although there is an option for a take-home exam.

# What is Q-Step all about?

- The Oxford Q-Step Centre is not only about teaching!
- Research Grant

Teaching

Research grants

Internship scheme

## Research Support Grants

The Oxford Q-Step Centre offers Oxford undergraduates the possibility to apply for a grant to support social science research involving quantitative methods.

Research support grants are designed to allow recipients to run surveys, digitize source data, or undertake other tasks necessary to complete a dissertation or other research project. Students could design a questionnaire to be fielded by a survey company like YouGov or via a crowdsourcing platform like Mechanical Turk; they could specify a data collection task to be undertaken by a data collection company like Digital Divide Data or through a platform like Upwork; they could purchase data for use in their research; or they could purchase software or hardware that allows them to undertake specific research tasks.

Although the OQC grants are primarily designed to support students in their dissertation research, students considering undertaking other types of research are strongly encouraged to apply. For example, a student may wish to undertake an independent research project about an industry or organization, possibly with guidance or cooperation from a non-academic supervisor. In these cases, the grants provide an opportunity for a student to obtain funding for a self-designed internship. To the extent possible, such a project should have a well-defined output. A particular goal of OQC grants is to offer support to students who would not be able to conduct the specified research without grant support.

Most grants will be under £500 each, but a larger grant will be considered in a compelling case. Grants are awarded on a rolling basis (i.e. with no fixed deadline), but funds are limited so applying earlier in the academic year will give the best chance of success. After completion of the project, grant recipients will be asked to provide a report on their use of funds; they may also be invited to describe their project in an event including all grant recipients.



How to apply



Criteria for success



# What is Q-Step all about?

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## Internship scheme

Make the most of your summer with a Q-Step internship!

The University of Oxford [Summer Internship Programme](#) offers hundreds of global internships exclusively to current matriculated Oxford students every year.

As part of the programme, the Q-Step Centre generously funds internships for undergraduates in the Social Sciences Division that focus on qualitative and quantitative analysis. The Q-Step internships are advertised as part of the UK batch of internships which is available to apply for from 16th February 2021.

You can apply through [CareerConnect](#) with a **one-page CV and 600-word personal statement**. Your application will be sent to the employer who will make the selection.

Q-Step funding is pre-allocated to each internship and the funds available will be specified on the internship description on CareerConnect. The level of funding is set at £315 per week and is provided in a lump sum before the placement starts.


Previous Q-Step internship hosts have included thinktanks, charities, museums and consulting firms such as YouGov, Citizens Advice Oxford, The Ditchley Foundation, BBC News, Synergy Global Consulting, Mount Stuart Trust, One Eighty Children's Charity and Kelmscott Manor.

! Sign up to the [Internship Office weekly newsletter](#) to find about the opportunities as they are advertised.



# What is Q-Step all about?

- The Oxford Q-Step Centre is not only about teaching!
- Internship - testimonials



*I was pleasantly surprised to find how collaborative the working environment was. As a large team of interns, it was great to meet people from other universities studying different disciplines. I feel our work has made a significant contribution to the future work of the foundation.*

*The most valuable aspect was my work on the data visualisation of the foundation's network which allowed me to improve my programming skills which I imagine will be invaluable for my future career. I began the internship believing that I would like to pursue a career in policy making and the opportunity to work at a thinktank like the Ditchley Foundation has only confirmed this further.*

**Ditchley Foundation intern 2020**

Lady Margaret Hall, Second Year Undergraduate, BA Philosophy,  
Politics and Economics


*I most certainly enjoyed the experience and feel like I gained not only a number of useful analytical skills but also more experience of working collaboratively on a research report. As for the future, this internship at Citizens Advice Oxford has definitely pushed me in the direction of pursuing a future in either the charities sector or in public/social policy while also furnishing me with the experience to go down that route.*

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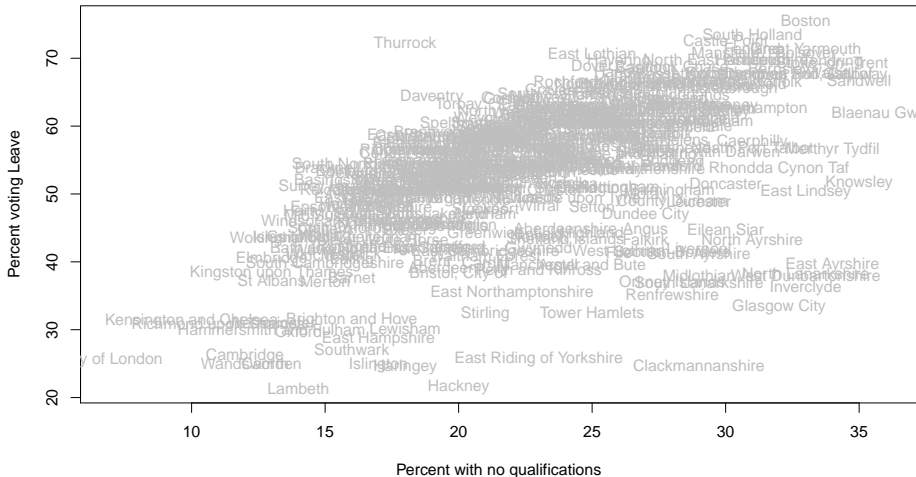
Please visit <https://www.oqc.ox.ac.uk/> to learn more about the Centre

# Why Stats and Numbers?

- You will -very soon- notice that the vast majority of your readings involve some kind of statistical analysis.
- If you are unable to critically assess the analyses (that offer the empirical test of the hypotheses), you will be unable to fully understand the research design of the authors.
- Understanding the research design also lets you better understand the theory and the hypotheses.
- Q-Step students are probably better at answering substantive questions, because they better understand the methodology.
- Two more reasons;
  - ▶ If you are keen to read the current research in political science, you will quickly notice that the vast majority of published works is quantitative.
  - ▶ The job market has changed; coding skills are essential to get a good job after your degree.
- I understand that many of you will be horrified just thinking that you will have to analyze data, but let me assure you. It is *really* not that hard. And it can be **fun!**

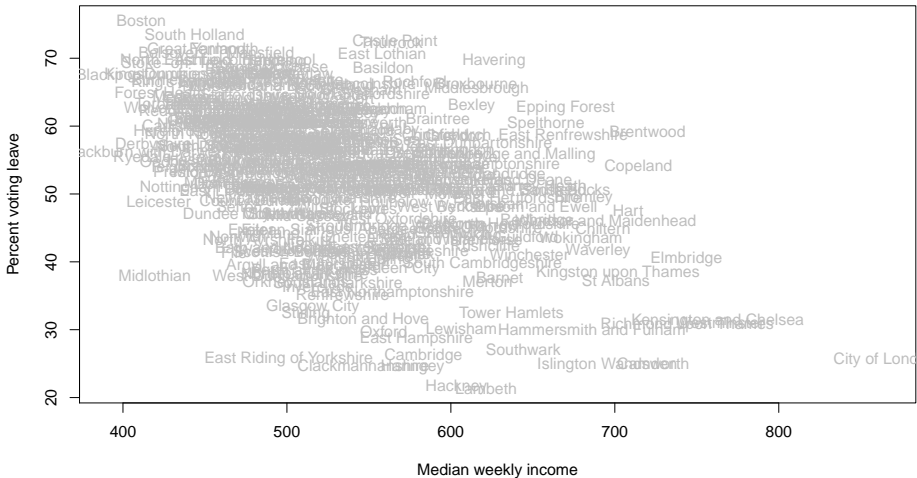


## An Example (of having fun)

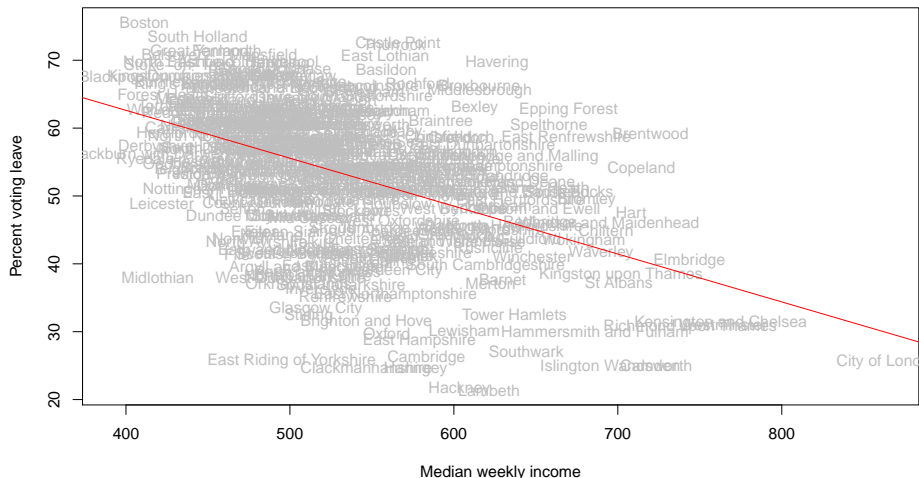




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# How is Q-Step 1 organized?

## *8 Lectures*

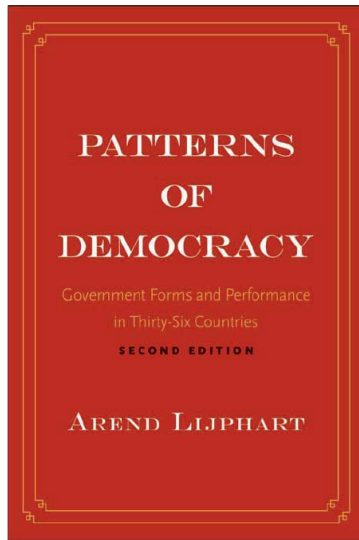
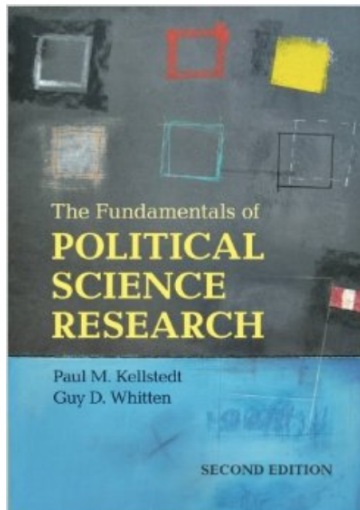
- Introduction
- Concepts and Measurements
- Descriptive Statistics and Visualization
- Case Selection
- Bivariate Relationships
- Multivariate Relationships
- Inference
- Synthesis and review

# How is Q-Step 1 organized?

## *4 Lab Sessions - Schedule*

- Intro to the software
- Descriptive Stats
- Bivariate Relationships
- Multivariate Relationships
- The sessions will run on weeks 2,4,6,and 8.
- You will be assigned to one of the four tutors who will be uploading their material online.

# Textbooks



# Software





# Assessment

## *Q-Step Essay*

- Three topics to choose!
  1. Does consensus democracy reduce social inequality?
  2. Does consensus democracy improve economic outcomes?
  3. Does consensus democracy improve the quality of government?
- Same data as in the lab sessions
- The analysis should be testing your hypothesis (i.e. the argument you would put forward in a tutorial essay)
- Requirement: One Plot - One Model, Full interpretation!
- But, I am confident that you can do much more and much better than this!
- This is not a matter of quantity (e.g. 15 models 125 plots), but quality.
- Try to answer the questions better than Lijphart did!
- The deadline for the Q-Step essay is week 2 of Trinity Term

# Research Design

## Typology of Research Questions

- *Descriptive Questions*

- ▶ What proportion of UK citizens support leaving the EU?
- ▶ Do democracies have better human rights records than non-democracies?

- *Explanatory Questions*

- ▶ Why do democracies seldom fight wars against each other?
- ▶ What caused the French Revolution?

- *Causal Questions*

- ▶ What is the effect of campaign spending on election outcomes?
- ▶ What is the effect of consensus democracy on political stability?

# Descriptive Questions

*Consider this question:*

- Is respect for human rights higher in democracies than in non-democracies?
  - ▶ defining concepts
  - ▶ measurement (week2)
  - ▶ describing the relationship (week3)
  - ▶ producing explanations/predictions

# Explanatory Questions

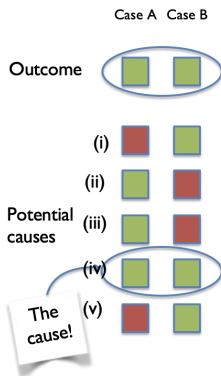
*Consider this question:*

- What caused the French Revolution?
  - ▶ Severe winter/bad harvests
  - ▶ Age of reason/ enlightenment
  - ▶ Past Wars and their Debt
- Everything about Measurement, description, explanation is still relevant for this question
- One begins from the event and then theorizes about the potential causes
  - ▶ what is their individual influence?
  - ▶ how they interact?
  - ▶ could they explain the phenomenon.

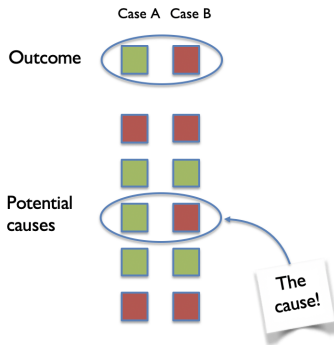
# Causal Questions

- E.g. **Do door-to door campaigns increase turnout?**
- This is a tough one; although one can easily draft a good causal question, it is really hard to make causal claims about relationships.

## Method of agreement



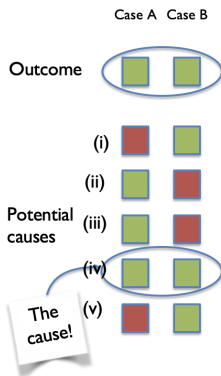
## Method of difference



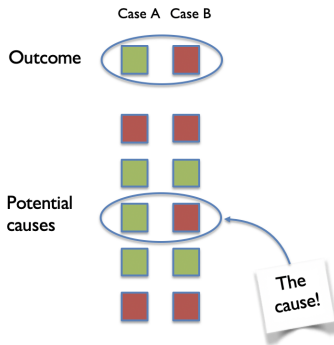
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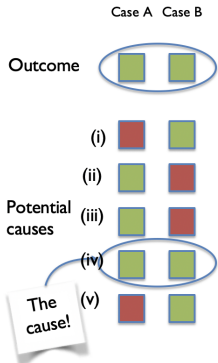
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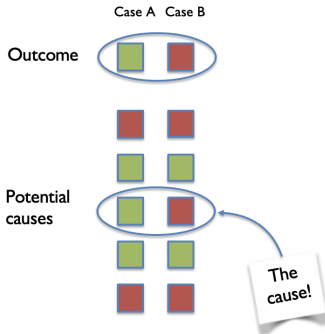
*J.S. Mill's Method of (Dis)Agreement*

# Causal Questions-Problems with Mill's method

## Method of agreement

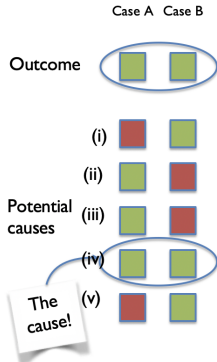


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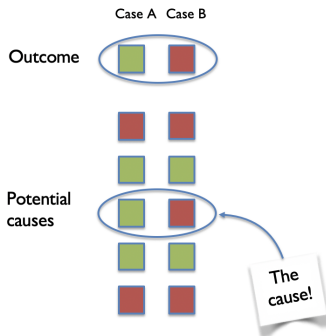


# Causal Questions-Problems with Mill's method

## Method of agreement



## Method of difference



- What if there is more than one point of agreement or difference?
- How do you know that you have listed all the potential causes? (e.g. the Ancien Regime)
- How do you judge agreement when factors are not binary?
- What if there is measurement error?
- What if both causes jointly cause the outcome?



# Should we abandon causality in the social sciences?

NO, but we should be careful!

- **Theoretical:** “I have a theory or argument that shows how the observed pattern is actually not that puzzling!”
- **Empirical:** “I produce a new measure that shows how the observed pattern is not at all puzzling”
- **Combo:** “Democracies do not fight each other considerably less than would be expected when you consider their wealth”

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*Still hard to choose between good explanations*

# The Experimental Ideal

Pause for a moment and think about the Oxford Vaccine (or any other COVID19 vaccine)

- How did they test its efficacy?
- Why was it tested like that?

Like in the sciences, we have to think of social relationships by benchmarking against the *experimental ideal*.

Randomized control trials are rare!

- How can you randomly assign Oil across regime to examine whether natural resources cause Civil Wars?
- How can you be certain that all possible -alternative- causes are considered?
- When assessing research papers/books, ask yourself what are the assumptions that would allow you to infer that a correlation implies causation?

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The experimental ideal should always be your point of departure  
Start thinking in terms of counterfactuals!

# Final Thoughts!

- Q-Step will offer you tools to better understand social science
- It is not very likely that you will become a statistician- no one is expecting you to become one
- But, we want you to be able to understand how others summarize (statistically) the relationships they describe (theoretically)
- You have to *learn by doing!*
- Only watching the lectures, or only attending the lab sessions is not enough.
- You have to do both and be disciplined; watch everything on time!
- It will be fun!

**Thank you!**