Research Methods for Economics and Policy

Lorenzo Neri[1]

[1] University of Rome “Tor Vergata”, CESifo and IZA

April-May 2026

Part of the material is based on the Economic Research Process Course at U Gothenburg

Something about me

- I joined Tor Vergata in 2025 after 4 years at the University of St Andrews. I obtained my PhD at Queen Mary University in London
- My research focuses on issues in economics of education and urban economics. This is my website: https://sites.google.com/view/lorenzoneri/home-page
- In a set of projects I study how public housing programs affect student achievement in more deprived neighbourhoods
- In other projects I study how management and governance affects the performance of students attending state-funded schools that are independent
- Lately I have been working on issues in Environmental Economics (the effect of air pollution on children's outcomes) and ethnic discrimination

The admin stuff

- All lectures will be regularly held in-person; lecture slides will be posted on the course page

- **THERE IS NO EXAM** :
  - → Research Proposal (65%); due May 28th.
  - → Attendance/engagement (5%).
  - → Presentation (10%); week 4.
  - → Presentation (20%); week 6.

- There are no seminars/classes - everything will be held during regular lecture times. However, this course includes a mix of “traditional” and interactive lectures
  - → Please look at the calendar carefully

- **Office hours**: Wed 14-16, but happy to meet outside these hours. Please email me if you’d like to meet during or outside office hours.

- **Contact**: lorenzo.neri@uniroma2.it

Module Outline

Week 1a	Generating research ideas and conducting a literature review
Week 1b	Reading an economic paper
Week 2a	Data and methods
Week 2b	Coding session
Week 3a	Coding session
Week 3b	Academic writing
Week 4	Academic presenting
Week 5	1-1 meetings
Week 6	Student presentations

Learning outcomes

On successful completion of the course, the student will be able to:

- Plan a relevant research project contributing to existing knowledge in economics
  - State a feasible and testable economic research question(s)
  - Motivate the scientific relevance of the question(s) using economic theory and research
  - Propose relevant data to analyze the question(s)
  - Propose suitable econometric approach(es) to analyze the chosen empirical research question
- Communicate the planned research project in an accessible way
  - Write a clear and well-structured research proposal
  - Present the research proposal
- Critically assess scientific projects and the suitability of research methods applied to a chosen research problem
- Demonstrate knowledge about relevant legislation for research and research ethical codes.

Generating Research Ideas

Structure and components of (applied) research

- A relevant research idea based on an underlying economic framework
  - → Economic- and Policy-relevance are important
  - → You need to think as economist: why is something interesting given economic theory? What is the impact on welfare, the functioning or outcomes of markets, etc?

Structure and components of (applied) research

- A relevant research idea based on an underlying economic framework
  - → Economic- and Policy-relevance are important
  - → You need to think as economist: why is something interesting given economic theory? What is the impact on welfare, the functioning or outcomes of markets, etc?
- A precisely formulated research question that generates a testable hypothesis
  - → Particularly early on, we often tend to be too broad
  - → It is important to distinguish the main question from related but tangential questions

Structure and components of (applied) research

- A relevant research idea based on an underlying economic framework
  - → Economic- and Policy-relevance are important
  - → You need to think as economist: why is something interesting given economic theory? What is the impact on welfare, the functioning or outcomes of markets, etc?
- A precisely formulated research question that generates a testable hypothesis
  - → Particularly early on, we often tend to be too broad
  - → It is important to distinguish the main question from related but tangential questions
- A suitable dataset: this depends on the specific need and has consequence for the next point. We will see a few examples over the coming weeks

Structure and components of (applied) research

- A relevant research idea based on an underlying economic framework
  - → Economic- and Policy-relevance are important
  - → You need to think as economist: why is something interesting given economic theory? What is the impact on welfare, the functioning or outcomes of markets, etc?
- A precisely formulated research question that generates a testable hypothesis
  - → Particularly early on, we often tend to be too broad
  - → It is important to distinguish the main question from related but tangential questions
- A suitable dataset: this depends on the specific need and has consequence for the next point. We will see a few examples over the coming weeks
- A clean identification strategy

Sources of research ideas

- **Classes, lectures and seminars**: what are important, unanswered questions?

Sources of research ideas

- **Classes, lectures and seminars**: what are important, unanswered questions?
- **Literature that interests you**: Review articles, handbooks, research articles, discussion/working papers, previous master theses, non-economics literature, newspapers, the Economist, non-fiction (history, biographies, etc.), TV and radio programmes, pods etc.

Sources of research ideas

- **Classes, lectures and seminars**: what are important, unanswered questions?
- **Literature that interests you**: Review articles, handbooks, research articles, discussion/working papers, previous master theses, non-economics literature, newspapers, the Economist, non-fiction (history, biographies, etc.), TV and radio programmes, pods etc.
- **Pay attention to day-to-day events**: what are prolems, inefficiencies, things that are not well-understood? Are there policies that have been implemented that could have unintented effects? Are there events whose consequences are not clear?

Sources of research ideas

- **Classes, lectures and seminars**: what are important, unanswered questions?
- **Literature that interests you**: Review articles, handbooks, research articles, discussion/working papers, previous master theses, non-economics literature, newspapers, the Economist, non-fiction (history, biographies, etc.), TV and radio programmes, pods etc.
- **Pay attention to day-to-day events**: what are prolems, inefficiencies, things that are not well-understood? Are there policies that have been implemented that could have unintented effects? Are there events whose consequences are not clear?
- Look at current and planned studies: pre-analysis repositories (e.g., AER RCT Registry), SSRN
- Look at platforms disseminating research and policy-relevant works/pieces: faculti, VoxEU, project syndicate

Sources of research ideas: thinking critically

Read and think critically. A lot of research is wrong, and hardly anything is optimal

- What is the underlying "big" question? Does the article's example illustrate the most important aspect of this bigger question?
- Can you think of better data/empirical method?
- Can you think of an interesting policy or policy change, or a novel data source? Has anything changed recently in society?
- Are assumptions correct, the conclusions warranted and is the overall interpretation sound?
- External validity: Is the question relevant in other contexts?
- Is there something that the authors do *not* do? This could be, for instance, particular aspects of a policy or, more broadly, of the topic that could not be addressed fully/coherently in the paper

Sources of research ideas: my experience

- Explore the data: the first chapter of my dissertation was born out of "strange" patterns we observed in test score data in England

Sources of research ideas: my experience

- Explore the data: the first chapter of my dissertation was born out of "strange" patterns we observed in test score data in England
- The second chapter (even though it massively changed over time) started when a PhD colleague and I attended a seminar on the effects of autonomous schools on student achievement in the US, and thought that nobody had done that for primary autonomous schools in the UK

Sources of research ideas: my experience

- Explore the data: the first chapter of my dissertation was born out of "strange" patterns we observed in test score data in England
- The second chapter (even though it massively changed over time) started when a PhD colleague and I attended a seminar on the effects of autonomous schools on student achievement in the US, and thought that nobody had done that for primary autonomous schools in the UK
- The third chapter was born thanks to a brainstorming session with my PhD supervisor

Sources of research ideas: my experience

- Explore the data: the first chapter of my dissertation was born out of "strange" patterns we observed in test score data in England
- The second chapter (even though it massively changed over time) started when a PhD colleague and I attended a seminar on the effects of autonomous schools on student achievement in the US, and thought that nobody had done that for primary autonomous schools in the UK
- The third chapter was born thanks to a brainstorming session with my PhD supervisor
- Other "random" projects:
  - One project was born in cooperation with a parents' association that was implementing a new program within local schools in Camden
  - Others took off with the idea of evaluating the effects of current policies or events, such as the closing of toxic plants in England

Sources of research ideas: my experience

- Explore the data: the first chapter of my dissertation was born out of "strange" patterns we observed in test score data in England
- The second chapter (even though it massively changed over time) started when a PhD colleague and I attended a seminar on the effects of autonomous schools on student achievement in the US, and thought that nobody had done that for primary autonomous schools in the UK
- The third chapter was born thanks to a brainstorming session with my PhD supervisor
- Other "random" projects:
  - One project was born in cooperation with a parents' association that was implementing a new program within local schools in Camden
  - Others took off with the idea of evaluating the effects of current policies or events, such as the closing of toxic plants in England
- I tend to pay lots of attention to the policies that are being discussed and the current debates, but interactions with policy-makers, other researchers and friends are important

Sources of research ideas: other experiences

- Pay attention to current debates: years ago, there was an ongoing debate about the impact of Polish immigrant in the UK: a PhD colleague thought about the potential effect on local children attending faith schools (Polish immigrants tend to be Catholic)

Sources of research ideas: other experiences

- Pay attention to current debates: years ago, there was an ongoing debate about the impact of Polish immigrant in the UK: a PhD colleague thought about the potential effect on local children attending faith schools (Polish immigrants tend to be Catholic)

- Be creative about potential data sources: she manually collected data on migration flows from different libraries in London

Sources of research ideas: other experiences

- Pay attention to current debates: years ago, there was an ongoing debate about the impact of Polish immigrant in the UK: a PhD colleague thought about the potential effect on local children attending faith schools (Polish immigrants tend to be Catholic)
- Be creative about potential data sources: she manually collected data on migration flows from different libraries in London
- Around the timing of publishing of university rankings, another colleague thought about whether these rankings accurately capture research quality

Sources of research ideas: other experiences

- Pay attention to current debates: years ago, there was an ongoing debate about the impact of Polish immigrant in the UK: a PhD colleague thought about the potential effect on local children attending faith schools (Polish immigrants tend to be Catholic)
- Be creative about potential data sources: she manually collected data on migration flows from different libraries in London
- Around the timing of publishing of university rankings, another colleague thought about whether these rankings accurately capture research quality
- Look at your own experience/interestes: a friend from Palma de Mallorca proposed to study a policy that included housing confiscations in the Balearic Islands; we are now studying ethnic discrimination in fantasy football...
- Then, many research ideas arise because of identifiable gaps in the existing literature

Getting to concise and precise research question

- When you know what “big” question you want to study, what then?
- Need to get from a broad idea to a precise, testable, research question (this is not easy)
  - What precise dimension of your bigger idea should you explore?
  - What precise context is a good illustration of this dimension?
  - What phenomenon/setting/population is relevant to study exactly?
  - Where can we find exogenous variation (or relevant correlational settings) and measure an effect?
- Sometimes there is a trade-off between a clear identification vs real world relevance. You need to make a motivated choice.

Getting to concise and precise research question: example

- An example of a broad" question: “Do disadvantaged schools affect low-income children negatively?”
  - What does this question tell us? What does it not tell us? What do you think I want to study?

Getting to concise and precise research question: example

- An example of a broad" question: “Do disadvantaged schools affect low-income children negatively?”
  - What does this question tell us? What does it not tell us? What do you think I want to study?
  - What kind of and which schools? What kind of disadvantage? Negative how, what outcomes? And so on...

Getting to concise and precise research question: example

- An example of a broad" question: “Do disadvantaged schools affect low-income children negatively?”
  - What does this question tell us? What does it not tell us? What do you think I want to study?
  - What kind of and which schools? What kind of disadvantage? Negative how, what outcomes? And so on...

- Compare to a more precise question “I study how local schools affect the educational achievement of low-income students when their neighborhood changes as a result of an inflow of more affluent households”

Getting to concise and precise research question: example

- An example of a broad" question: “Do disadvantaged schools affect low-income children negatively?”
  - What does this question tell us? What does it not tell us? What do you think I want to study?
  - What kind of and which schools? What kind of disadvantage? Negative how, what outcomes? And so on...
- Compare to a more precise question “I study how local schools affect the educational achievement of low-income students when their neighborhood changes as a result of an inflow of more affluent households”
- You should **always** be able to formulate a testable research question in one sentence!

Evaluating the research question

- Is it a good question?
- It is subjective to a degree, but here are some guidelines:
  - Does it have important “economic” implications?
  - Is it new? Talk to other economists, check the literature
  - Can you motivate it using economic logic?
  - Can you test it?
  - Are you interested in it?
  - Are others interested it?

Steps for empirical research

1. Transform research question into testable hypothesis
2. Study the relevant the literature: how does the research question fit?
3. Find suitable data (more on this next week) and methods to test the hypothesis
   - The method ultimately depends on the available data...
4. Start the analysis
5. Start writing - don't wait too long
6. Try to get continuous feedback about your progress

Some final points

- Before going “full on”, try to evaluate the feasibility and potential outcome for the project
  - Besides feasibility, it is important to understand what could be the likely outcome of the project - is it likely to raise media attention? How well could it be published? Etc...
- If the effect is there, can you test it? Is the effect detectable? What effect size is it reasonable to look for?
  - The issue here is statistical power: we’ll come back to this.
- Most projects and ideas “fail” and many projects turn out different from the initial set-up
  - Have started several projects that were then “killed” in the early stage, for different reasons
  - Similarly, at least 3 projects started and then developed in a different fashion
  - Important not to get frustrated and be prepared to “re-optimise”
- Find a topic you like, you are likely to be “stuck” with it for a long time...

Conducting a literature review

Where do we start?

- **Handbooks**. For a broad overview of the topic you are interested it and the existing work on its different aspects, start with handbooks. Some examples:
  - Handbook of Labor Economics
  - Handbook of Public Economics
- **Review Journals**.
  - Journal of Economic Literature
  - Journal of Economic Perspectives
- **Published research articles**.
  - Google Scholar, EconLit, JSTOR, IDEAS

Which journals you should consider?

- **Journal ranking**: a quick (generalized and imperfect) guide
  - Top 5 journals: American Economic Review, Quarterly Journal of Economics, Econometrica, Journal of Political Economy, Review of Economic Studies
  - Second tier general journals: e.g., Review of Economics and Statistics, American Economic Journal: Applied Economics/Economic Policy/Macroeconomics/Microeconomics, Journal of the European Economic Association, Economic Journal...
  - Top field journals: e.g., Journal of Labor Economics, Journal of Public Economics, Journal of International Economics, Experimental Economics, Journal of Environmental Economics and Management...
  - Top sub-field journals: e.g., Journal of Urban Economics, Journal of Law and Economics, Economics of Education Review...

- Interesting reading on publishing in academia: Social ties in academia: A friend is a treasure

What about unpublished works?

- **Discussion and working papers**: a quick (generalized and imperfect) guide
  - Google Scholar, SSRN, IDEAS, RePEc, other sources (e.g., X, Bluesky)
  - Well-known WP series: National Bureau of Economic Research (NBER), Centre for Economic Policy Research (CEPR), Institute for the Study of Labor (IZA), CESifo, SSRN.com...
  - Author webpages - see, e.g., mine
  - Recent theses, online libraries...

Browsing the literature

- There is a lot to read, and some of it technical and takes time to read
- Start with the abstract: Question/method/data relevant to you? Structure material based on importance
- Skim the introduction: what is the main idea or question, how central is it to your question?
- Skim tables, figures, equations: how is the main analysis done?
- Check references: same strand of literature?
- Make list/overview of relevant articles
- Read only articles relevant to your topic in detail

Structuring the literature review (1)

Useful template when reading:

- Reference and link to source
- What is the main message of the article? Highlight key points in an organised way (e.g., keywords or bulleted list)
- Relevance: how does it relate to your question?
- Literature: how does it relate to other articles in the area of research?
- Audience: for whom is the article written, what is the purpose, is there an agenda of some kind?

I actually tend to build a word document with the relevant works, but you can put together an excel sheet and list and structure articles there. And/or you can write notes in referencing programmes such as Endnote or Zotero

Structuring the literature review (2)

Make sure you understand the following aspects:

- What economic theories are the most frequently used?
- What assumptions are frequently made?
- What empirical methods and data are frequently used?
- How have methods and knowledge developed over time?

Aim of the literature review

- Informing the reader what is already known about the research area
- Revealing unanswered questions in that research area (“What is the gap that you fill?”)
- Helping motivating what you are doing and clarifying your contribution
- Putting your research into context and “positioning” it in relation to the existing knowledge (with respect to topic, method, data etc.)
- Providing the background against which your study should be evaluated

So - how do we write it?

You should make sure to:

- Identify and explain the main findings of the closest studies
- Mention strengths and weaknesses and give credit to previous work that shares features with yours. Simplify for the reader to understand the literature
- Explain, based on the above, how your thesis contributes to the literature

In your literature review, what should stand aside is - What do you do that is new, different or better?

You can either have it as a long list of papers (boring) or have something that is more embedded in the paper's narrative and more informative

So - where do we put it?

Generally, you have two options: as part of introduction or as separate section

- Part of the introduction: generally more “modern” and nicer, but Intro may get long or may be hard to mention all relevant papers in a concise intro
- Separate section: hard not to repeat yourself, and some literature may have to be in intro, it may become a very dry section of your paper etc.

What should you do?

- In general, most people prefer to have the literature in the Intro
- In your case, I would say that it depends. In a master dissertation, it can be easier/more natural to have a separate Section. For the Proposal, I would not have a preference, but it is important that you convey your contribution

Referencing

- Check the recommended format
- There are different styles: e.g., see Google Scholar
- In-text: Author (year), (Author, year); For more than 2 authors, you can use uthor 1 et al. (year)

In the reference list at the end of the dissertation (most ways work, just be consistent):

- **Book**: Author, initials (year). Title of book. Edition (only if not first edition). Place of publication: Publisher.
  - Ashenfelter, O., and Card, D. (Eds.). (2010). Handbook of labor economics. Elsevier.
- **Journal article**: Author, initials (year). Title of article. Full title of journal, volume number (issue/part number), page numbers.
  - Battistin, E., and Neri, L. (2024). School Performance, Score Inflation, and Neighborhood Development. Journal of Labor Economics, 42(3), 753-792.
- **Working paper**: Author, initials (year). Title of article. Type of working paper.
  - Neri, L., Pasini, E. and Silva, O. (2024). The organizational economics of school chains. CEP Discussion Paper No. 1993.

Tomorrow and Wednesday: Reading an economic paper

Readings for tomorrow:
Dynarski, S., Libassi, C. J., Michelmore, K., and Owen, S. (2021). Closing the gap: The effect of reducing complexity and uncertainty in college pricing on the choices of low-income students. American Economic Review 111.6: 1721-1756.

Deshpande, M., and Li, Y. (2019). Who is screened out? Application costs and the targeting of disability programs. American Economic Journal: Economic Policy, 11(4), 213-248.

Tomorrow:
$\Rightarrow$ First part: reading and skimming an economic paper
$\Rightarrow$ Second part: discussion of research papers

Wednesday:
$\Rightarrow$ I will assign a paper to groups of students, who have to prepare slides
$\Rightarrow$ Second part: slide presentation