

Reading and evaluating Empirical work in Economics



Aalto-yliopisto
Kauppakorkeakoulu

Miri Stryjan

Updated in August 2022

Empirical research means...

Research that is based on empirical material, i.e. data, which comes from observations and measurements from the real world.

Common types of data used in Economics are survey data and register data (for example from the tax registry).

Empirical research is different from *theoretical* research.

Empirical work in Economics

These are a few typical features of empirical research in Economics:

Quantitative – large datasets and statistical analysis methods are used to answer the research question. This can be contrasted to qualitative methods which are common in many other social sciences.

Strong focus on identification of *causal* effects This is related to the use of specific econometric methods to try and isolate the causal effect. Studying causal effects can be contrasted with studying *correlations*.

- but note that *descriptive* studies (using large datasets) are also used in Economics.

Often connected to an economic theory: the empirical research use a theoretical prediction to motivate their work, they can test a theory, or use the theory to understand which mechanism may be driving a causal relationship between two variables.

Theoretical or “Conceptual” framework in empirical papers

Even in an empirical paper, a theoretical framework (sometimes also called “conceptual framework”) is often included. This can help guide the empirical analysis or make sense of the results.

Just because a model with some equations is included in a paper does not mean that the paper is a theoretical paper.

Whether or not the paper is empirical or theoretical can often be understood from the abstract and the first paragraphs of the introduction, which should convey the main contribution of the paper.

It can also be understood from the relative focus of the different sections of the paper. How many sections focus on the model, relative to the data and data analysis?

Summarizing empirical papers

Some useful details to pay attention to for a literature review:

- The research question (RQ)
- The setting of the study (e.g. primary school education in China)
- The identification strategy of the study (does it claim to study a causal relationship? If yes, how do the authors identify/isolate the causal effect?)
- The data, and whether it is collected for the specific study, or it is register data or more publicly available survey data
- The main results **and** the likely mechanisms/channels through which these result come about
- The weak points of the study (in terms of the method and data)
- The external validity

When you are comparing a few different papers, explain how their setup/identification strategy or data differ from each other – and relate this to any differences in findings. It is not useful to know that two papers find opposing results without also getting information that helps us put this difference in context.

You do not need to list and discuss all details such as exact number of observation in each studied group

See more in the thesis writing guide, section 4 under “Literature review”.

Example summaries of empirical papers:

This summary is overly long but provides examples on how to discuss most of the aspects suggested on previous slide:

Paper 1: [RQ] Bertrand and Mullainathan (2004) study racial discrimination in the US labor market.

[Method/identification strategy] They designed an experiment where they send fictitious résumés to employers, that differ only by the name of the applicant, and the name indicates the applicant's race. This way, they can compare the likelihood of being invited to an interview for two identical candidates that only vary with respect to their race, and identify the *causal* effect of race on the likelihood that he/she is invited to an interview. They can also measure the return to education and other skills separately by race.

[Data] The data they use is generated and collected within the experiment and the main outcome is call-back rates of employees to schedule an interview.

[Main find] They find that African American applicants are less likely to be called to an interview than a comparable white applicant, and that returns to credentials is lower for African Americans. To understand the [mechanisms], the authors discuss whether these effects are in line with the taste based and statistical discrimination models used in Economics. They conclude that none of these models is consistent with the observation that African Americans have lower returns to the same skills, regardless of the sector, and suggest that other explanations, such as the employer using simple heuristics/rules of thumb to determine whom to interview, may better explain the observed relationships.

[Limitations and external validity] The study may have limited external validity beyond the US, and one potential drawback is that the name of the applicant may also convey other information than race, e.g. social class (but the authors do address this in the paper).