Block Seminar Module "Empirical Environment, Resource and Energy Economics" (075 015)

# 1 What you need to know about the term paper:

You have been assigned one paper from the scientific literature and you are expected to summarize and critically review its content.

Your written elaboration (referred to as "Term Paper" in the following) should be in English and around 8 pages in length with a tolerance of plus/ minus one page (font Calibri, size 11, line spacing 1 1/2, text alignment: justification (Blocksatz)).

The term paper should consist of two main parts: (1.) The summary and (2.) the critical review. The summary should cover a maximum of half of your term paper, or possibly less. Note: In general, we are more interested in your critical review than in your summary. Additionally, there should be an introduction and a conclusion.

In a mid-term submission, we ask you to hand in a preliminary, bullet-point outline of your term paper. We will provide further information on this in our introductory seminar.

## 1.1 The (extended) summary

This part should summarize your assigned paper in a way that the reader understands all important features without having to read the assigned paper themself. The summary should cover not more than half of your term paper, possibly less.

Therefore, you need to decide which aspects of the paper are relevant and important to understand its message, and which aspect do not need as much attention in your summary.

#### **Basic questions:**

- What is the research question that the authors address? What is the motivation behind it?
- How do the authors try to answer this question? What are their hypotheses?
- What is the data base (primary or secondary data)?
- What is the research design (field/lab/survey experiment)?  $\rightarrow$  Describe experimental design
- What is the empirical strategy (e.g., which regression model(s) do the authors use)?
- What are the results?
- What can we learn from these results? Why are they relevant?

In general, you should not just paraphrase what the authors of your assigned paper wrote. Instead, you are expected to describe what they do and why they do it.

In essence: You should not assume that the reader has specific knowledge about the research topic at hand. You can, however, assume that the reader knows what is taught in general master level courses on Econometrics, Microeconometrics, Microeconomics and Macroeconomics.

Your ability to decide which aspects of the paper need more detailed explanations and which aspects are common knowledge among trained economists is part of your performance. This is an important competence if you want to write scientific papers in economics.

#### One example:

Bad style: "The authors estimate the relation between X and Y using an instrumental variables approach. They instrument X by the instrumental variable Z."

Good style: "The authors are interested in the relation between X and Y. However, X is likely an endogenous variable because [...]. Therefore, the authors employ an instrumental variables approach and use Z as an instrumental variable. Z is argued to be a valid instrument because [...].

## 1.2 The critical review

In this part you should find some points of criticism of your assigned paper. (Advice: Concentrate on a few points, do not overload your paper!)

Do not pressure yourself too much: Most of the papers are published in very good journals and you are unlikely to find weaknesses that completely trash the paper. However, there is room for improvement in every published research paper. A major part of working as a researcher is to anticipate and tackle such weaknesses.

Additionally, you could also point out positive features of your assigned paper, i.e., point out what makes the paper especially good compared to the rest of the literature.

The criticism can cover all parts of your assigned paper.

#### Some examples:

- Is the research question misguided or is it already answered in other papers that are not cited?
  - ➔ For this, try to find out what other papers have been published on the topic, by consulting online databases (for links to these databases, see below).
- Is the applied method appropriate to answer the research question? (Is an observational study/quasi-experiment/field-experiment/laboratory-experiment the appropriate way to deal with the question? Or might another method yield more reliable results? Think also about the dimensions of internal validity and external validity.)
  - → If you do not know some of these terms, please look them up
- Is the data base strong enough to answer the research question? (Representativeness, self-selection, external validity, power...)
- Is the data analyzed and interpreted in an appropriate way? (Choice of the model, tests of the underlying assumptions, causality...)
- Is the conclusion backed by the empirical findings?
- Are there different conclusions one could reach based on the empirical findings?
- Do the authors discuss any shortcomings of their study? Do you agree with them? Why (not)?
- In case of positive features of your assigned paper: How does the empirical/theoretical approach, data base, importance of the findings, etc. advance the scientific literature?

Your task is to convince us that your criticism is valid. Please draw on scientific literature to underline your criticism. (Are similar problems discussed in other papers? Are there other papers on that topic that use a different methodology? Are there methodological papers on that topic?...)

Further, you should provide ideas how the issue you raised could be addressed.

#### Some examples:

• Is there another econometric model one should use to analyze the data? What are the drawbacks, what are the advantages?

- Is there another theoretical model/argumentation that could explain the observed behavior? What are the drawbacks, what are the advantages?
- How could the experiment be adapted to address your criticism?
- Which additional variables should be included in the econometric model to address your criticism? How could one measure these variables?
- Should the sampling strategy be adapted? How could this be done in practice?
- Which further empirical studies should be conducted to answer the researcher question?
- Which further research questions arise from the paper? How could they be answered?
- ..

In case of discussing positive features of your assigned paper:

• How could those features improve research processes or theoretical approaches in general?

All in all, your task is to lay out a research agenda (or even provide some own empirical results) that could tackle your criticism and that is scientifically interesting.

#### In a nutshell:

1. Summarize the paper such that an economist who has no specific knowledge about the research topic at hand understands it.

2a. Find some points of criticism of your assigned paper. Convince us that these points of criticism are valid.

2b. Propose ways to tackle this criticism.

## 1.3 Style

Your term paper should comprise 8 pages with a tolerance of plus/minus one page (title page and references not included). Please use font Calibri, size 11, line spacing 1 ½, text alignment: justification (Blocksatz).

State your name and your matriculation number on the first page of your term paper (title page)!

Try to start early and remember to check spelling, punctuation and formatting before handing in your term paper.

The format and citation style should be consistent throughout the term paper, and it should be oriented on scientific standards. Please cite author and year in the text instead of using footnotes.

In your summary, it is not necessary to name the source after each sentence. Use direct citations as little as possible, especially in your summary!

## Examples of correct in-text citation:

- Diamond and Hausman (1994) conclude that current methods are not suitable for damage assessment or benefit-cost analysis.
- Some authors criticize contingent valuation methods (Diamond and Hausman, 1994; Hausman, 2012).
- Tiefenbeck et al. (2018) conducted a large-scale field experiment.

Further guidance on proper citation and more examples:

https://www.mendeley.com/guides/harvard-citation-guide; APA Citation Examples & Citation Generator | EasyBib

If you need some guidance, you may also want to have a look at the Ruhr Economics Papers: http://www.rwi-essen.de/publikationen/ruhr-economic-papers/. This is the Working Paper series by Uni DUE, RUB, TU Dortmund and RWI. Just read some of those papers and adapt the style that is used there.

Furthermore, you may want to have a look at the thesis guidelines of Prof. Bauer's chair of Empirical Economics: https://www.wiwi.ruhr-uni-bochum.de/mam/content/guidelines\_19.pdf. You do not necessarily have to adhere to this, but it could also be a help.

## 2 Good to know

## 2.1 How to read a paper?

- 1. Read the abstract.
- 2. Read the discussion/conclusion.
- 3. Read the remaining parts of the paper you are interested in.
  - Research design
  - Empirical strategy
  - Detailed results
  - Unless you are especially interested in the received literature, you may skip the literature review.

## 2.2 How and where to search for literature?

- Search databases
  - Google scholar
  - Web of Science
  - o <u>Scopus Document search</u>
  - o <u>ScienceDirect.com</u> | <u>Science</u>, health and medical journals, full text articles and books.
  - o JSTOR Home
  - o <u>SAGE Journals: Your gateway to world-class research journals (sagepub.com)</u>
  - <u>Wiley Online Library | Scientific research articles, journals, books, and reference</u> works
- Back referencing (search for interesting literature in the references of your paper)
- Citation tracking (search for interesting papers that cited your paper)