

Johannes Gutenberg-University Mainz
FB 03: Faculty of Law, Management and Economics
Chair of Statistics and Econometrics
Prof. Dr. Reyn van Ewijk

Semester (winter semester/summer semester) year (YYYY)¹

Guidelines for Writing a Master Thesis²

Submitted on: DD.MM.YYYY

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Semesters in Major: X

Major: Master in Economics

¹ All passages written in red need to be adjusted to your master thesis. Please use black font on the entire cover page.

² This cover page serves as an example. At this position, you should state the title of your thesis.

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1. Introduction

These guidelines describe the fundamental framework of a master thesis. Please regard these guidelines as a minimum requirement rather than a comprehensive manual. For more details on how to write good scientific papers you may want to consult one of the references given in chapter 8. Please make sure you use the **most recent version of the guidelines** as indicated in the footer.

You should first consider the **purpose** of preparing a **master thesis**: you are expected to demonstrate that you can define, structure and develop an economic topic on your own. This requires you to search for and compile the relevant scientific literature (potentially in a foreign language) as well as to apply and extend your knowledge of economic concepts and methods.

Here we will make you acquainted with the knowledge you should have and the requirements you need to fulfil in order to write your thesis paper with the Chair of Statistics & Econometrics. Then we will address content-related issues and formal requirements of a thesis paper. Also we will specify the organizational procedure of registration and will address questions of time management.

2. Prerequisites

You should have acquired a basic knowledge of econometric methods and economic theory regarding your topic before you register your thesis with us. Also you should be willing and able to fully commit to your topic for four months.

Please make sure that you thoroughly familiarize yourself with **citation managers** such as Citavi, Endnote, Mendeley or Zotero **before** you start working on your thesis. Please also note that the University Library (Zentralbibliothek) offers courses regarding the search for literature, citation techniques and Citavi.

3. Content-related issues

3.1. [Choosing a topic](#)

Please keep in mind the core research areas of our chair when choosing a topic that you want to be supervised by the Chair of Statistics & Econometrics (see the entries on our chair's team members on the website). In general, we expect you to come to us with suggestions of possible topics. Narrowing down a topic can be done with your supervisor once the chair has agreed to supervise your thesis.

Choosing a topic is already a part of your accomplishment! It is also your opportunity to show that you can work on your own using a scientific approach and develop as well as relate scientific questions to one another. Choosing and developing a scientific question will take some time, so make sure that you start working on your topic before you get in touch with the chair. On the other hand, you should be aware that working for seven months on a thesis that is laid out for a four months period will not lead to a better thesis paper.

3.2. [Finding Literature](#)

Finding and compiling the scientific literature that is relevant for your topic is a central aspect of writing your thesis. However, you **should not cite all articles** that you find. Instead, you have to identify the **most influential and relevant ones**. Make sure that you are only using scientific literature!

A typical starting point in the search for literature are databases such as Econlit / Business Source Premier, which you can access via the website of the university library from the university network. Please note that these databases primarily serve the purpose of finding relevant articles, but not every paper can be downloaded from these databases. You will need to search for the actual paper in JSTOR or Google Scholar. If no online version is available, you can search the printed version of a journal using EZB – Elektronische Zeitschriften via the website of the university library and copy the article.

You should primarily cite **current academic/scientific literature**. Non-scientific newspapers and magazines are not considered appropriate literature, but they can serve as a source for empirical data or public opinion in some cases. Textbooks, books addressing practitioners as well as encyclopedia or reference books are also not appropriate literature, except for selected definitions. Publications from associations and corporations - in particular, those published on the internet – should be used with caution. **Wikipedia entries and lecture notes are not academic references!**

Be aware that you may not be able to read all the literature you find in detail. Focus on the most relevant articles that are closest to your topic and study these carefully. It is often sufficient to read only the introduction and conclusion of articles in order to decide whether the article is sufficiently relevant for your work and whether it is worth studying the entire article carefully.

3.3. [Content](#)

When you are writing your thesis, you are taking part in the academic discourse. This means that you are using scientific literature and are making a small contribution. Your paper should **address a professional audience**, i.e. people with a university education in economics. Nevertheless, you should

make sure to explain the theories and methods you are using in your thesis thoroughly. As you are writing an empirical paper, make sure to document the methodology you use carefully and thoroughly.

The minimum requirements for a master thesis are to give an overview of the literature and to do own empirical analyses which are placed in the context of the previous literature and which are presented and interpreted correctly and using a coherent argumentation.

A good thesis paper is also characterized by a well thought-out and interesting structure, by developing sub-questions, for example. The different parts of the work are well-connected. In empirical papers the theory is explained well and based on that theory a question/hypothesis is developed and tested.

A very good thesis paper further makes a contribution to the literature, by, for example, estimating an existing model but with different data or by doing various robustness checks. It shows an exceptional understanding of the economics relevant of the topic and the econometric methods. The model you introduce is thought-through. Strengths and weaknesses are discussed in detail. The results of your own empirical research are discussed in the context of the relevant scientific literature.

4. Formal Requirements

MS Office Word is commonly available on all university computers and can be used to write your thesis. A more professional editing software is LaTeX. You are not required, but are strongly encouraged, to make yourself familiar with LaTeX or with a LaTeX based text editor such as LyX.

Your master thesis should consist of **38 – 40 pages** and should not exceed 40 pages. The page count includes only the pages of the main part of your thesis, **without** the title page, table of contents, other lists, references and the appendix. Large figures and tables in the main part of your thesis are also not counted, so that your thesis may be longer than 40 pages, if you are including many large figures and tables. Please include only relevant figures and tables.

Please use font type **Arial or Calibri** in **font size 11** with **1.5 line spacing**. For **footnotes**, use **font size 9** with **single line spacing**. Set **margins to 2.5 cm** at the right, left, top and bottom. Use justification for the text alignment and add page numbers. The page numbers start on the first page of the main body of your thesis.

Footnotes are **only** used for **comments** that would distract the reader from the main thoughts or the flow of the text. Important arguments have to be developed within the main body of the thesis, while

unimportant thoughts or arguments do not appear in the thesis at all. **Please do not cite using footnotes.**

Make sure to check your thesis for **spelling and grammar mistakes** and use the spell check function of your text editor.

A master thesis consists of the following elements, in the corresponding order:

4.1. [Cover Page](#)

The front cover should contain the following information (cf. template front cover of these guidelines):

- i. Complete title of the chair(s) supervising your thesis
- ii. Name of your supervisor(s)
- iii. Title of the thesis
- iv. Name, address, phone number, email address, course of studies, university, student number and number of semesters in major

Please note that there is **no page number** on the front cover!

4.2. [Table of Contents](#)

The table of contents includes all the elements of your work, with the exception of the cover page. As a rule, the outline can contain up to three levels (chapters, sections and subsections) and has to include the title, chapter/section number, and the page where the chapter/section starts. In Microsoft Word you can (and should) use the automatic creation of the table of contents – be sure to update the table of contents at the end. An example is given at the beginning of this paper.

Please note that there is **no page number** on the table of contents!

4.3. [List of Abbreviations \(optional\)](#)

The list of abbreviations includes all abbreviations used in the main body in alphabetical order (e.g. WTO – World Trade Organization). Commonly used abbreviations such as e.g., incl., etc. do not have to be included. These pages do not count toward your page requirement. For the page number you should use **Roman numerals**, which also need to be included in the table of contents.

4.4. [List of Symbols \(optional\)](#)

The list of symbols includes mathematical symbols or variables used in the main body with their respective definitions. These pages do not count toward your page requirement. Use **Roman numerals** for these pages as well and include it in the table of contents.

4.5. [List of Figures \(optional\)](#)

The list of figures includes all figures in the main body or appendix, indicating the number of the figure, the title, and the page on which it can be found. These pages do not count toward your page requirement. Use **Roman numerals** for these pages as well and include it in the table of contents.

4.6. [List of Tables \(optional\)](#)

Cf. list of figures, but for tables.

4.7. [Main Body of the Thesis \(text\)](#)

The main body of the thesis is divided into chapters, sections, and subsections, which have **meaningful titles**. Your **main arguments** should be introduced and discussed in a **logical and consistent order**. The number of chapters and sections and the depth of the hierarchical structure should be proportionate to the length of the thesis. The length of each chapter should reflect its importance within the thesis.

Throughout the thesis, make sure that the reader can always follow your train of thoughts. Refrain from using very long paragraphs – a paragraph should only contain one thought. Explain formulae, figures and tables in the main text. Please remember to label figures and tables and indicate the meaning in case any symbols such as ** are included.

Be clear and concise. **Use scientific language** and **avoid colloquial expressions**. Choose an appropriate style and use correct grammar and spelling. You may use either American or British English, but be consistent! Always try to put yourself into the perspective of the reader.

The main body of your thesis should consist of the following chapters:

4.7.1. **Introduction**

The main body starts with an introduction, which motivates your **research question** and **explains** its relevance. Furthermore, it includes a short overview of current research and briefly sets the content of your thesis into the context of the current literature. It gives a preview of the main results/insights. The introduction ends by providing a short overview of the structure of the thesis.

4.7.2. **Background**

The main part of your text should begin with an overview of the existing literature on your topic. In this chapter, you elaborate on the **current research** and provide relevant background for your topic, citing relevant scientific literature. Please be sure to explain the methods used as well as strengths and potential weaknesses of the existing literature.

The most important technical terms and definitions are introduced in this chapter. The development of a theoretical background allows you to formulate the **hypotheses for your own research** and to

place your model/analysis within the scientific discourse. Explain how your research is contributing to the existing literature. Make sure that your hypotheses are formulated in a logical and concise way.

The background chapter can be divided into further sections and subsections.

4.7.3. Methods

After the introduction of the background, the focus shifts to the **methods** used in your master thesis and introduces your **own model**. First, please describe the particularities of your dataset and explain how the data were collected. In a second step, explain the methods you will use in your own analysis and explain why these methods are justified. Please discuss potential limitations of the methods you decide to use. Finally, present your own model.

The methods chapter can be divided into further sections and subsections.

4.7.4. Results

In the results chapter you present your results. Make sure that you cover all aspects of the research question that you have developed in the preceding chapters of your thesis. Please present your results comprehensively and structure the results - tables and diagrams may be helpful. Describe your results; however do not evaluate them at this point (the evaluation and discussion is undertaken in the discussion chapter).

The results chapter can be divided into further sections and subsections.

4.7.5. Discussion

After the description of your results in the results chapter, you now evaluate and discuss the results. Make sure that your interpretation is methodologically correct and structured clearly. Critically discuss your results, also in respect to potential limitations. Provide economic intuition for your key results. Furthermore, your results should be placed within the current research, which was introduced in the theoretical background chapter.

The discussion chapter can be divided into further sections and subsections.

4.7.6. Conclusion

At the end of your thesis, the main results of your work as well as the existing literature are briefly summarized. Focus on the most important aspects and critically reflect on them. Furthermore, conclusions can be drawn (if applicable) for practitioners such as policy makers, an outlook on the future development of the scientific discourse on your topic can be provided and open research questions can be pointed out.

4.8. [Appendix \(obligatory for empirical theses\)](#)

In the appendix, you can provide additional material, such as a detailed description of the used dataset, further tables and figures, or detailed proofs of theorems and propositions. Anything that is not essential to understand your arguments in the main text, but is nevertheless important enough to be mentioned, may be relegated to the appendix. Please make sure that all elements of your appendix are referred to in the main body of your thesis.

When writing an empirical master thesis, please add the program files (such as the STATA Do-Files used to prepare the dataset and to conduct the analysis as well as the respective STATA Log-Files) to the appendix. These files do not need to be referred to in the main body of your thesis.

These pages do not count toward your page requirement.

4.9. [References](#)

The references include all sources cited in the main body or appendix, including the sources for figures and tables. The references should **ordered alphabetically** according to the last name of the (first) author. If there are several works by one author, list them in chronological order. If there are several sources of the same author in a given year, you can indicate this with small letters (e.g. 2001a, 2001b). The references do not include any literature that has not been cited in the main body. Different types of documents require different citation. Please adhere to the citation style that we present in the following and use it consistently throughout your entire list of references.

i. Academic Journal Articles

Surname, First Name (Initial followed by a point) (Year). Title. *Name of the Academic Journal*, Volume(Issue), page numbers.

Multiple Authors:

Almond, D., Mazumder, B. & Van Ewijk, R. (2015). In utero Ramadan exposure and children's academic performance. *The Economic Journal*, 125(589), 1501-1533.

Two Authors:

Van Ewijk, R. & Slegers, P. (2010). The effect of peer socioeconomic status on student achievement: A meta-analysis. *Educational Research Review*, 5(2), 134-150.

Single Author:

Melitz, M. J. (2003). The impact of trade on intra-industry reallocations and aggregate industry productivity. *Econometrica*, 71(6), 1695-1725.

ii. Articles in Edited Volumes

Surname, First Name (Initial followed by a point) (Year). Title. In: Names of the editors (Format: Surname, First Name – Initial followed by a point), *Title of the edited volume*, edition (if applicable), page numbers.

Chaloupka, F. J. & Warner, K. E. (2000). The economics of smoking. In: Cuyler, A. J. & Newhouse, J. P., *Handbook of Health Economics, 1B*, 1539-1627.

iii. Monographs

Surname, First Name (Initial followed by a point) (Year). *Title of the Monograph*, edition (if applicable), Place of Publishing: Publisher.

Camerer, C. F., Loewenstein, G. & Rabin, M. (2004). *Advances in Behavioral Economics*, Princeton: Princeton University Press.

iv. Working papers and unpublished manuscripts

Surname, First Name (Initial followed by a point) (Year). *Title*. Exact description of the document, institution providing the document.

Blum, B. S., Claro, S. & Horstmann, I. J. (2011). *Intermediation and the nature of trade costs: Theory and evidence*. Working paper, University of Toronto.

Black, S. E., Bütikofer, A., Devereux, P. J., & Salvanes, K. G. (2013). *This is Only a Test? Long-Run Impacts of Prenatal Exposure to Radioactive Fallout*. NBER Working Paper No. 18987, National Bureau of Economic Research.

Unpublished literature should be used only in exceptional cases and must be justified!

v. Resources from the internet

Author (Surname, First Name (Initial followed by a point) / the institution providing the information) (Year). Title of the Document. entire URL last retrieved on Date (DD.MM.YYYY).

Food and Agriculture Organisation (2008). The nutrition transition and obesity. <http://www.fao.org/focus/e/obesity/obes2.htm> last retrieved on 16.12.2016.

Please be cautious when using information from the internet!

Please do not order the publications by document type in your thesis, but only in alphabetical order as indicated above!

5. In-Text Citation

Intellectual property of other authors must be identified as such, including thoughts, arguments, tables, figures and images. The source of any argument or idea that is not your own must be cited correctly. Be aware that plagiarism is a crime and will have serious consequences. Please do not rely on secondary quotations, but consult the original source (when possible) instead!

Please quote **within the text** (Melitz, 2003), **not in footnotes**. Be consistent all throughout the thesis. When citing works from two authors, please indicate the names of both authors (Van Ewijk & Slegers, 2010). If you cite work by more than two authors use the first author followed by "et al." (Blum et al., 2011).

If you generally refer to a source, use **the author and the year of publication**. For example: Melitz (2007) shows that....

Please use **direct quotes sparingly**. You should rephrase arguments taken from the literature using your own words, always remembering to indicate the original source. In case you include a direct quote, use quotation marks and indicate the exact page number of the quoted sentence, for instance: “...the exposure to trade induces only the more productive firms to export while simultaneously forcing the least productive firms to exit.” (Melitz, 2003, p. 1695). If direct quotes exceed a length of three lines you may additionally indent the quote. If a word is left out, this has to be indicated by two dots (..), if more than one word is omitted, this has to be indicated by three dots (...). If you insert additional text to the direct quote, this has to be indicated by placing it in [brackets]. Longer direct quotations should be indented and displayed in a separate paragraph. Use single quotation marks to set off material that was enclosed in double quotation marks in the original source (quotations ‘within’ a quotation). A secondary source can be quoted only when the original text is not available. If this is the case, the reference to the source should also include the secondary source, which needs to be indicated with “quoted in...”. Indicate if you have translated a quotation from a foreign language.

If you use figures or tables from other sources, you must indicate the author, year and page below the title of the figure or table and include the source in the list of references. If you use data to create your own graphs and tables, you have to state the source of data. For example: World Bank, WDI.

All references referred to in your thesis have to appear in the **list of references** at the end of your thesis!

6. Time Schedule

The Chair of Statistics & Econometrics supervises Master theses. If you consider writing your thesis at our chair, please be aware of the following steps:

- i. Before submitting your application at our chair, make sure that you fulfill all requirements set out in the examination rules (*Prüfungsordnung*).
- ii. You may either chose one of the topics provided by the chair (see website) or you may apply with your own suggestion for a topic. The application procedure is made up of **two steps**.
- iii. In the **first step**, you are required to submit your application by E-Mail to the secretary of the chair (sekretariat.vanewijk@uni-mainz.de). It should include the following information: your degree program, the number of semesters you have been studying, the courses you have taken at our chair (lectures and seminars), your area of interest, **your (suggested) topic for your**

- thesis** (incl. an idea of what data set could be used), an up-to-date extract of your grades, and a CV.
- iv. We will contact you after your submission to set up an appointment to discuss your topic choice with you.
 - v. In the **second step** of the application procedure, you are required to draft an **exposé** based on the discussed topic. The exposé should give an overview of what you plan to write in your master thesis, including relevance of the topic, placement in the literature, contribution of your work as well as an outline of the analysis plan and the dataset you will be using. It should be a maximum of 4 pages long (excl. references). Please send an electronic version (PDF) to sekretariat.vanewijk@uni-mainz.de.
 - vi. After having received your exposé, **we will contact you to set up an appointment to discuss your exposé.**
 - vii. Afterwards, you can officially register your thesis. Please do not register an empirical thesis before you have a complete dataset!
 - viii. You now have 4 months to complete your thesis. We strongly recommend that you set up a timeline for your thesis (from the registration up to the submission of your thesis). By checking your work plan, you can make sure that you are always on time.
 - ix. The first month of your work on the thesis typically consist of reading, reading more and then reading a lot more. By the end of the first month you should have a clear structure on paper and already some rough idea which arguments you will be discussing in which chapter. The time between the first and the last month you spend on getting deeper into the topic, developing your thoughts and arguments and doing the empirical work. By the beginning of the last month of your work you should be ready to do the “fine tuning”, i.e. writing out the last bullet points, proof reading, sending it to friends & family for proof reading, etc.
 - x. During the time you are working on your thesis, you will be required to **informally present** your thesis at a **colloquium**. The chair will organize a colloquium every few months, during which all current master and PhD students will present their work. This is an opportunity for you to present your research, especially the estimation methods if your thesis is empirical, and to receive helpful comments from the audience. This presentation will NOT be graded. The presentation should be around 30 minutes long, followed by around 15 minutes of questions by/discussion with the audience. You are also required to attend the other presentations and to participate in the discussions following each presentation. Check the website for the date of the next colloquium.

- xi. Deadline: 4 months after official registration, you have to submit your master thesis. Please submit two bound printed versions of your thesis paper to the Examinations Office (Prüfungsamt) and an electronic version (MS Word (or LaTeX/LyX) and pdf format!) to the chair (both to sekretariat.vanewijk@uni-mainz.de and your advisor). If your thesis includes an empirical part, please also submit the relevant STATA-Do-files, STATA-Log-files, Excel-files, MatLab-Code etc.
- xii. 4-6 weeks after submission, the research colloquium will take place (date to be set together).

7. Additional Remarks

When critically analyzing an article, always assume that the reader has not read the article or does not have a copy of the article at hand. Include important graphs and tables in your thesis, if their discussion is paramount to your thesis (remember to cite correctly). However, you should not include more than one or two tables or figures from other articles. Your master thesis is **not a summary** of an article, therefore avoid too many replications.

Please also note the following:

- i. Arrange your tables clearly (round numbers – do not use more than three decimals). Screenshots of STATA Output (or similar) will not be accepted.
- ii. (Long, complicated) Names of variables in STATA should not be used in your text nor in tables. You should assign those variables clear names so that the reader can directly grasp their meaning.³

8. Conclusion

These guidelines explain what a good thesis should look like regarding content and formal requirements. If you have any doubts on how to proceed with your paper, consult one of the references below. If you still cannot find an answer to your question, contact your supervisor with a precise question.

³ For example: For your analysis in STATA you called the control variable for body length BODY_L_CM. When reading this name, the reader does not directly understand what you are referring to. In your thesis, you could for example call this variable “body length”.

9. References

Here are some further references on writing a thesis which you may find helpful:

Eco, U. (2007). *Wie man eine wissenschaftliche Abschlussarbeit schreibt: Doktor-, Diplom- und Magisterarbeit in den Geistes- und Sozialwissenschaften*. Heidelberg: UTB Verlag.

Franck, N. & Stary, J. (2011). *Die Technik wissenschaftlichen Arbeitens, 16*. Paderborn: Schöningh Verlag.

Neugeboren, R. (2005). *The student's guide to writing economics*. New York, NY: Routledge.

McCloskey, D. N. (2000). *Economical writing*. Long Grove, IL: Waveland Press.

Rossig, W. E. & Prätisch, J. (2006). *Wissenschaftliches Arbeiten*. Wey: Teamdruck.

Sesink, W. (2007). *Einführung in das wissenschaftliche Arbeiten*. München: Oldenburg Verlag.

Thomson, W. (2001). *A guide for the young economist*. Cambridge, MA: MIT Press.

Turabian, K. L. & Booth, W. C. (2011). *A manual for writers of research papers, theses, and dissertations. Chicago style for students and researchers, 7*. Chicago, IL: Univ. of Chicago Press.

Theisen, M. R. (2006). *Wissenschaftliches Arbeiten*. München: Verlag Vahlen.

We thank Prof. Daniel Schunk for an earlier version of these guidelines based on which the present document was developed.