# Supervision for Bachelor or Master Thesis

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This guideline should give you some insight into the process of writing a thesis and what you can expect from me as a supervisor and what I expect from you as a student.

My field is **Behavioral and Experimental Economics and Environmental Economics**. Have a look at my website <u>www.christinagravert.com</u> to see what I do research on. I prefer supervising theses in those areas. On the Bachelor level, I have also supervised theses in Game Theory. For a Master level thesis in game theory, I will not be the right supervisor. I am happy to supervise both experimental work, but also work with existing data.

#### Remember:

- my expertise, knowledge and research interests are in experiments, both in the lab and in the field as well as empirical work.
- I have several students to supervise. Contact me well in advance if you are considering to ask me to be your supervisor.
- For running experimental studies we need funding. Another reason to contact me in advance.
- For particular data, you should also make sure that you can have access to it
- Read the faculty's policy on MSc supervision

## The supervisor's role and student expectations

Four important reminders:

1. You should not expect your supervisor to "tell you what to do" exactly, as much as to give pointers. A written assignment is about you showing what you can do, not replicating the exact ideas and opinions of one other person. Remember that your supervisor will also become your examiner once you hand in your assignment. This is another reason why he or she will not be giving you specific solutions to academic problems, especially as you get closer to handing in. You have to prove your own ability to solve problems, though not entirely without advice and directions, of course.

- 2. If you ensure clarity with your supervisor about your expectations of each other in advance you will avoid misunderstandings, disappointment and will be more satisfied in the long run. For instance, one aspect to address is how many meetings you will have and how to use your meetings. Some issues may be dealt with via email, when and if that is preferable. If you are about to write your thesis, the contract you sign suggests 4 meetings through the four months, but some may need more, some less supervision during that time. Rather than wait for your supervisor to remember you, you should get in touch when you need to talk, get some advice or schedule a meeting. Thus, please be pro-active!
- 3. Students writing their theses should remember that while they spend four months thinking only of writing their theses, the supervisors have many other things on their minds in the same period. Thus, **be patient with your supervisor**. Remind her what you are doing, what you already did and what is still missing.
- 4. Not all students can get a good grade, even with the best supervision <sup>(3)</sup>. My role is to supervise you according to your level or the level you can reach. Therefore, during the process of writing I will tell you what are the problems and weaknesses of your paper but be careful that you cannot expect a good/outstanding grade just because you tried to deal with the points I mention.

# **Your Thesis**

With your thesis (especially a master thesis) you **demonstrate that you can do original scientific research and that you can write about it**. In more detail, you have to show that:

- You can find an interesting research question.
- You find methods that help you in obtaining an answer to this question.
- You can apply these methods.
- You can communicate what you are doing in a clear and precise way.

In particular, you should make a serious effort to **find a research question**. You can start from something you have seen in class or something you have read. You can also review the literature starting from papers published in top journals. Try to understand what has been done and what is still missing; this demonstrates your scientific competence. If you have difficulties finding a good question then I can help you to find something interesting.

Once you have a question you should make **some routine tests**. What do you know about answers to this question? Think about lectures you have heard, literature you can read, search the internet, etc. Have similar questions already been discussed in the literature? Which gap do you want to close with your study? What possibilities do you have to find an answer to this question? Include experimental and non-experimental methods. What are advantages and disadvantages of the experimental method? Is it possible that your experiment yields a surprising answer? Do you have an idea for an experimental design? Is this the simplest possible design to answer your question?

Once you are satisfied with your research question, you should make an appointment and we should talk about the details of your study. In your request for an appointment, please **include an outline of your research question together with a summary of your answers to the above routine questions**.

Importantly, if you want to do a field experiment, think about what a good setting or field partner would be. I can help you make some connections, but you need to be pro-active.

# Process of writing and our co-operation

This is an example how a process of writing on this topic could look like. It will be adjusted based on your needs.

## <u>Stage 1</u>

- Read literature on the field of interest
- Find a specific question that sounds interesting to you and that is empirically testable
- Think about how one could run an experiment or which type of data you would need
- Write the question/topic in one paragraph
- Come to me to discuss it (Meeting 1)
- Then make the official contract

#### Stage 2

- Read in bigger detail about the topic, in particular what other researchers did and found and make some notes (I can suggest you some relevant papers)
- If running a field experiment, contact field partners. If doing something online, understand the methods. See how to get access to the data.
- Present for 15 minutes a meeting with the other Master students. Write to me to schedule this.
  - Please prepare the following 5 slides:

1. Motivation for your topic (main literature, policy, etc.) Why are you studying this for the next 4 months?

- 2. Your research question/ hypothesis in one sentence
- 3. Research methodology (experiment or data? What data?)
- 4. Rough timeline
- 5. Challenges that you have already identified (what could be a problem, where do you need help, what are you missing?
- Have a second meeting with me about more details. <u>You need to schedule this.</u> I will not run after you. (Meeting 2)

#### Stage 3

- Learn the techniques that you would like to use
- Design the experiment or write up your analysis plan

• If your are running an experiment or doing a survey, schedule a 30-45 minute meeting slot to present your design and get feedback before running it. Make sure to ask ca. 4 weeks in advance for a slot (Meeting 3)

#### Stage 4

- Run the experiment, or do the analysis
- Come to me to talk about the results and their interpretation (Meeting 4)

#### Stage 5

- Write down the preliminary version of your thesis
- Send me one part of your thesis so that I can give you some comments/suggestions to improve your writing. (Written feedback or maybe meeting 5)
- Finalize the thesis
- If you did not present a design, schedule a 30 min meeting to practice for your defense in front of the other students.

## Stage 6

- Submit your thesis
- One hour oral defense (Master), half an hour (Bachelor)

## **Thesis structure**

This is just an example, but it may help you to structure your work.

1. **Abstract.** Abstract should be shorter than 200 words. Avoid citing in the abstract, avoid using acronyms. Keep the abstract as simple as possible. Explain your topic (1/3), approach (1/3), and results(1/3). Write your abstract so as every educated person can understand it.

- 2. Introduction (10%). The Introduction section clarifies the motivation for the work presented and prepares readers for the structure of the paper. In particular, explain what is your research question and why it is important and interesting.
- 3. Literature review (20%). What is the relation between your question and the previous literature?
- 4. **Model (20%)**. A (theoretical) **model** can provide the framework of your analysis. If there are several models, try to be clear. What belongs to the framework you are using, and what is a digression or a comparison with something else? State clearly your **research hypotheses**.
- 5. **Method/Experiment (20%)** section provides sufficient detail to reproduce the experiment(s) presented in the paper. You can put some information in the appendix.
- 6. **Results (20%)**. This section presents the research results. Remember that readers can seldom make sense of results alone without accompanying interpretation they need to be told what the results mean. Thus, convince the readers that you are sure about your findings. Spend a lot of time in preparing Tables and Figures. These are the only things that the reader will remember about your thesis.
- 7. **Conclusion and discussion (10%)**. In this section presents the outcome of the work by interpreting the findings at a higher level of abstraction and by relating these findings to the motivation stated in the Introduction. A good summary helps the reader a lot. What is the takehome message?

## Bibliography

## Appendix

# Scientific writing: tips and resources

Writing is a very important part of science; it is used to document and communicate ideas, activities and findings to others. Good scientific writing is:

- clear it avoids unnecessary detail;
- **simple** it uses direct language, avoiding vague or complicated sentences. Technical terms and jargon are used only when they are necessary for accuracy;

- **impartial** it avoids making assumptions (Everyone knows that ...) and unproven statements (It can never be proved that ...). It presents how and where data were collected and supports its conclusions with evidence;
- **structured logically** ideas and processes are expressed in a logical order. The text is divided into sections with clear headings;
- **accurate** it avoids vague and ambiguous language such as about, approximately, almost;
- **objective** statements and ideas are supported by appropriate evidence that demonstrates how conclusions have been drawn as well as acknowledging the work of others.

To reflect the characteristics of good scientific writing in your own work, you need to think about the way that you write and the language that you use. Defend a clear position and help your reader to understand this position. Be precise but concise. Shorter is better. Critically review your text before handing it in. Ask yourself: does it say what I mean? Do I need this word or sentence to properly express my opinion? If not, cut it. Clarity of writing usually follows clarity of thought. Revise your text several times before handing in.

Remember the most important ingredient is passion: You cannot write a good thesis if you are not passionate about your research. Writing a good thesis involves a lot of work. If you hate your topic, you will suffer. Keep in mind that different people have passion for different things. Make your supervisor and opponent passionate about your topic, otherwise they will suffer as well. Share your passion with your supervisor (consult your progress regularly, but remember the supervisor is not your slave) and with your fellow students (mutual feedback will lead to a Pareto-effective improvement.

Samuel Johnson said: "What is written without effort is in general read without pleasure." Once you think your thesis is complete, you have still a month of work to do. Go through it at least three times and delete at least 10% of words. Think about each sentence and each word: How could I write it better? When in doubt, google the expression. For instance, if it consists of three words and have been only used five times in this form, it is probably incorrect. Finally, exchange the thesis with friends for mutual proofreading.

# **Useful resources to improve your writing:**

- English Communication for Scientists (Nature)
- <u>Writing tips</u> from Monash University
- <u>Scientific writing</u> (Duke University)
- Cochrane's <u>writing tips</u> (useful for writing Master and PhD theses)

- Mankiw's advice on "how to write well" for a general audience
- The Economist style guide
- Some <u>exercises</u> to improve your writing
- Here's a useful glossary of terms in BE econ (in particular, pag. 1-28)
- Data visualization (JEP 2014)

If you're just looking for some quick advice, or some revision techniques to help get your manuscript out soon, here are a few summary resources.

- <u>Williams' Ten Principles for Writing Clearly</u>
- Orwell's Six Rules
- <u>Revising your manuscript in 7 steps</u>

References (books):

- Michael Alley; The Craft of Scientific Writing, 3rd Edition Paperback September 2, 1998
- William Thomson; A Guide for the Young Economist; The MIT Press, 2001.
- Joseph Williams; Style: Ten Lessons in Clarity and Grace.
- McCloskey, D. (1999). Economical Writing. Waveland; 2nd edition.
- Strunk, W. & E. B. White (2000). The Elements of Style. Longman; 4th edition.
- Williams, J. M. (2010). Style: Lessons in Clarity and Grace. Longman; 10th edition.