

## Writing a thesis at IRENE

Version 20 November 2018

### 1. Introduction

If you are studying in the Master of Science in Applied Economics (MScAPEC) or the Bachelor of Science in Economics and Business, you can write a thesis at the Institute of Economic Research (IRENE). This document provides general **academic guidelines** how to conduct your thesis project. Your supervisor may have other or additional requirements, and these should be clarified in advance. In addition, for **administrative requirements** please consult these websites for writing:

- [A master thesis](#)
- [A bachelor thesis](#),
- An internship theses at the [bachelor](#) and [master](#) level.

Your supervisor will provide guidance to choose the topic, the data, and the methodology. In addition, he/she will answer questions if you are stuck with your project. An important part of the thesis, however, consists of learning how to conduct a project independently.

The thesis consists of a research project summarized in a short scientific paper. This paper should

- clearly specify the research question
- use relevant resources (e.g. literature, data), and suitable methods (e.g. statistics, regressions, interviews, literature review) to answer this question
- relate your contribution to existing research
- differentiate your contribution from existing research
- communicate the findings in a grammatical, clear, and objective way.

We recommend that you stick to the following order to organize your research project:

1. Write a research proposal (choose topic, define research question, review key literature)
2. Do the research (empirical work, theoretical work, organize the literature you read)
3. Write up the main body of your paper (e.g. data, method, results)
4. Write up the supporting part of your paper (conclusion, introduction and abstract)
5. Revise your manuscript (proofread, restructure if necessary)

To allocate your time efficiently, expect that you spend about 20% of your time reading and defining your research question, 40% doing the actual research, and 40% writing and revising the actual thesis.

Having said that, writing on a research project is rarely a linear process because you do not know what you will find at the end. You may realize when writing the results section that you need additional empirical evidence. You may change your research question because you stumble upon a particularly interesting result. You may add a relevant paper that you missed after you have written your conclusion. This implies that you may switch back and forth in the order mentioned above. However, keep in mind your goal and time allocation.

### 2. Submit a proposal

In order to write a thesis at IRENE get in touch with one of the professors, lecturers, or post-doctoral researchers in a domain that is of interest to you. Choose the potential supervisor according to the topic that

you are interested in. Consult the portraits on the [institute's homepage](#) and visit the personal websites of your potential supervisor. If both of you are interested in the topic, he or she will be able to more effectively guide your project.

Then, directly contact your potential supervisor by e-mail with a “declaration of interest” explaining briefly why you are interested in writing a thesis in this domain. If you already have a research idea, describe it in a short paragraph. Afterwards, we will contact you for a bilateral meeting or propose another supervisor that may be more suitable for your interests.

The bilateral meeting serves to answer potential questions from your side, discuss the timeline and, most importantly, narrow down the topic. Three common types of research at our institute are empirical studies, literature reviews, and theoretical analyses. Of course, a combination of the three or another type is possible. Sometimes, a literature review seems appealing if you want to avoid working with data or theoretical models. Note, however, that writing a good literature review is challenging because you must clearly show that your contribution is. If you consider a literature review, first consult the following [homepage](#) and this [slide deck](#) with some good advice.

Once you agree with your supervisor on a potential topic, you will prepare a short research proposal. The proposal comprises at most two A4 pages and should:

- state the research question, motivation (why the question is important), and type of analysis (empirical, theoretical, interviews, meta study, literature review, ...)
- describe potential data sources
- describe potential methods
- mention at least three closely related papers and explain how your project differs
- propose a timeline when you will write and submit the thesis

The research proposal serves to organize your work and is a condition that you can officially start with your thesis. It is possible, that your potential supervisor will ask for some changes before you can start. Also, make sure that you fulfil all formal and administrative requirements (see links in the introduction above).

### **3. Do the research**

Doing empirical research is sometimes like finding a needle in the haystack. If you knew what you will find and where you find it, you do not have to (re)search in the first place. Also, don't be discouraged if you do not find any (statistically) significant results. In fact, showing that there is no relationship can be an interesting finding as well, if it contradicts the existing consensus. A good strategy usually is to replicate the findings of a related paper in order to check whether you mastered the methods you want to apply. Then, you can vary your approach if you think that other researchers missed an important point.

If you choose to work with theoretical models, the best way to start is again to use an existing model and adapt it to show that, for example, a particular result is not robust or that the adapted model is better able to explain real-world phenomena.

For a literature review you must read, read, and read. However, make sure that you keep your eyes open for patterns that you observe in the literature (contradicting groups of researchers, trends over time, and differences among groups of countries...). These patterns will help you later on to organize your thesis and [write an interesting literature review](#). The same advice applies to the literature section in an empirical or theoretical paper.

In any case, keep a diary while you do your actual research (for example in a word file or a notebook). This diary does not have to be well articulated or nicely formatted. But it will help to remember what you did some time ago once you start writing up your results.

## 4. Write the thesis

You have done your research, found interesting results, prepared tables and figures: now is the time for writing things up.

**Process:** The first step is to set up a structure for the thesis. One traditional structure for an empirical paper is: Abstract, Introduction, Literature review, Methodology and Data, Results, and Conclusion. However, there are plenty of other possibilities. The structure should support your argument.

Never start with the supporting parts of your thesis (e.g. Abstract/Introduction/Conclusion). How can you conclude if you do not yet know what you will say? One possibility is to first write the literature review and the methodology (basically an extended version of the research proposal). Then, write up the results section. At the very end, work on the supporting parts.

As a rule, put one idea in one paragraph. This means that if you start with a new thought/result/argument, you start a new paragraph. This helps the reader to follow your argument. A helpful tool to work on the thesis is to put the main message at the top of the paragraph. You will remove this later. However, as an intermediate step, you should be able to get the main idea of your paper by simply reading the main messages that you put above your paragraphs.

Another important rule is that the space allocated to a given part in the thesis should not necessarily reflect the time spent in pursuing the research. This is particularly true for empirical work.

When you are done with the first version of the entire thesis, set it aside one or two days and then proofread and revise. Set different tasks on different days: spend one day to detect grammatical errors. Spend another day to revise the structure of the paragraphs. Finally, iterate: the written pieces you submit should never be the first draft; there is always space for improvement.

**Abstract:** The abstract is a very concise summary of the paper. The purpose is that other researchers quickly get an idea what you do and whether they should continue reading. Write it at the very end. Keep it below 100 words.

**Introduction:** This section should be a summary of your paper and highlight clearly the contributions relative to the existing literature in the area. Here are some general recommendations

- Upper limit four pages
- Start with what you do, the major contribution of your paper, your research question (in a way a casual reader can understand)
- Motivate your work and why it is interesting (why should we care?); try to catch the readers interest and curiosity
- Explain your main results and how they relate to the most important related papers (are they in favor, do they contradict?); avoid a fully-fledged literature review, however
- This is only a preview, so keep it simple, concise, and clear

**Literature review:** This section contains a brief review to put your findings in some context. The first purpose of the literature review is that you show that you identified the most important related papers and are familiar with existing work. The second purpose is to set the stage and motivate your own work

- Choose about 5 closely related and important papers. There is no need to mention every paper that you read. Nobody is impressed if you include irrelevant papers in the literature review. Your reader expects a concise summary of the literature relevant for your work
- Find a way to organize your review. Do not state paper 1 found x, paper 2 found y, paper 3...; find a pattern (are there opposing views, does everybody agree, is there a point everybody misses?)
- Set your contribution off against the previous studies: Are you answering a question differently? Do you find different results? Why?

**Conclusion:** Keep your conclusion short and do not simply reiterate what you already said in the introduction. It is the moment to put your findings in a broader context and/or acknowledge limitations. If applicable, it is also the place to discuss policy implications that may go beyond the narrow context you analyzed. Do not speculate, however. The conclusion still belongs to the research paper and must be objective.

**Appendix:** Only put the most important tables and figures in the main text. Put the rest in an appendix. You can also defer lengthy data descriptions and sources to the appendix. However, make sure that the reader has enough information when reading the main text without switching back and forth. Do not put tables and figures in the appendix that you extensively discuss in the main text.

**Format and language:** There are no restrictions about word processing software (Probably you want to use MS Word or some version of LaTeX if you use many formulas). A suggestive formatting for the text is: 12pt font size, 1.5 line spacing, either some paragraph spacing or indentation, justified alignment, and 1-inch margins.

You can write either in French or in English. Consult some of the writing tips in the next section for improving your academic writing style. A boring text will attract less attention even if the results are groundbreaking. Generally, use a simple, neutral, academic tone.

When you report numbers in tables and figures, use a suitable unit and round to sensible number of digits after the decimal point (use 1.23 instead of 1.23435345; change the unit to avoid numbers such as 0.000000345 or 3,300,000,000).

Make sure that tables and figures are self-explanatory, axes are clearly labelled, and the reader can easily spot what you want to describe. If necessary, add notes.

**Length:** The master thesis yields 30 ECTS and the bachelor thesis 12 ECTS. Therefore, a bachelor thesis is shorter than a master thesis. The length of your thesis will also differ depending on its type the specific requirements of your supervisor. As a rule, a master thesis should be no longer than 80 pages, while, a bachelor thesis no longer than 40 pages (counting the main text, charts, tables, appendices, references). However, the goal is to maximize the number of interesting findings, not the number of pages! You receive your grade for the research and clarity of exposition. If you manage to convince the reader of your findings with fewer pages, all the better.

**Plagiarism:** Beware of plagiarism! We expect you to cite related work when necessary. You can use any citation style but be consistent! If you are in doubt, [follow this manual](#). A pledge of honor is a mandatory part of your thesis (download in [French](#) and [English](#)).

In case of plagiarism, thesis will be deemed as failed and can entail administrative sanctions and disciplinary consequences. Any formulation, idea, research, reasoning or analysis borrowed from a third party should be correctly and accurately indicated as such, clearly and transparently, and in such a way that the original source is immediately recognizable. Here you can find [general guidelines](#).

Note that Wikipedia and similar sources can be problematic; here are some [guidelines how to work with Wikipedia](#) in an academic setting). As a rule, we recommend finding and citing the original source of the information posted on Wikipedia.

## 5. Ressources

**Help from our side:** If you need help, please contact your supervisor with specific questions and be prepared for the meeting. You don't want to waste time searching your laptop for charts and results.

**Literature review and organization of citations:** The resources below are just examples. Note that we do not provide support for any software. Use at your own risk.

- You get access to many journals if you are logged in the Unine network via VPN; otherwise, ask [Unine bibliothèque](#)

- Search literature and export citations: [IDEAS/RePEc](#), [Google Scholar](#), [EconLit](#), [Scopus](#)
- Organize and structure citations: [Citavi.com](#), [JabRef](#), EndNote (note that you can obtain a copy from [SITEL](#))
- Write thesis: MS Word, LaTeX, <https://miktex.org/>, <https://www.overleaf.com/> (note that [SITEL](#) offers courses for LaTeX)

#### Data sources:

- World Bank: <https://data.worldbank.org/>
- Our World in Data: <https://ourworldindata.org/>
- World Inequality Database: <https://wid.world/>
- Penn World Tables: [www.rug.nl/ggdc/productivity/pwt](http://www.rug.nl/ggdc/productivity/pwt)
- Maddison Project: [www.ggdc.net/maddison/maddison-project/home.htm](http://www.ggdc.net/maddison/maddison-project/home.htm)
- IMF: [www.imf.org/en/Data](http://www.imf.org/en/Data)
- OECD: <https://stats.oecd.org/> <https://data.oecd.org/>
- FRED (US): <https://fred.stlouisfed.org/>
- Measuring Worth (US, UK): [www.measuringworth.com](http://www.measuringworth.com)
- Dataseries (CH): <https://www.dataseries.org/>
- Banque Nationale Suisse (CH): <https://data.snb.ch/>

#### References on writing well in economics (in English):

- [Nikolov's term paper writing tips](#)
- [Greg Mankiw's Guidelines](#)
- [Cochrane's PhD writing tips](#)
- The Elements of Style, by William Strunk Jr.
- On Writing Well, The Classic Guide to Writing Nonfiction, by William Zinsser
- Economical Writing, 1999, by Deirdre McCloskey

#### Examples thesis title page:

- [In English](#)
- [In French](#)

## 6. Evaluation

Grades are set by your supervisor, typically assessing:

**Structure:** The structure and exposition of the thesis should be clear support the arguments made. The sections and paragraphs should follow a logical order.

**Content:** The content should be factually correct, but also, the contribution should be novel and independent. In addition, the research question should be focused and clear and, in the end, the thesis should answer it. Finally, the student should show that he/she has a firm grasp of the relevant related research.

**Methodology:** The student should apply empirical and/or theoretical methods that are relevant to answering the research question. The thesis should explain the most important aspects of the method and argue why it is adequate for answering their research question. The method should be executed correctly.

**Form:** The thesis should have a standardized format and bibliography as well as correct spelling, grammar and citations. Figures and tables should be self-explanatory, i.e. they should be easy to understand with the included descriptions, titles and notes without having to read the written main text.

**Difficulty:** We judge the overall difficulty of a thesis (for example, extensive data work or methodologies not available in standard software packages).

**Overall impression:** Here we consider the student's commitment, invention, independence and proactivity.