Guidelines and instructions for writing seminar papers, bachelor and master theses

at the Department of Economics

of the University of Berne

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Contents

This document contains guidelines and instructions for completing seminar papers, bachelor theses and master theses. The guidelines and instructions are designed to help prevent errors from being committed and to facilitate the task of students when drafting academic papers. For further tips we recommend the book ‘Wissenschaftliches Arbeiten und Schreiben. Schritt für Schritt zur Bachelor- und Master-Thesis in den Wirtschaftswissenschaften [Scientific Works and Papers. Step by Step to Bachelor and Master Theses in Economics] by Oehlrich M. (2015) which can be downloaded from the university’s intranet through Swissbib.

1 Purpose of the work

Drafting a scientific paper gives students the opportunity of delving more deeply into economic questions. Hence the main aim of an academic paper is to intensively discuss a topic. It provides an opportunity for independently practising the skills required to prepare an academic work. This may take place by formulating the question from a theoretical or practical point of view. The student should also produce his or her own work. A good academic paper is characterized by the fact that it

- properly delimits a research question;
- uses the relevant sources and reviews them in a meaningful fashion;
- puts forward its own ideas on a topic and substantiates them;
- proceeds systematically and uses a suitable methodology;
- expresses itself in writing clearly and comprehensibly;
- derives recommendations for actions from the analysis as the case may be.

2 Content-related aspects

2.1 Structure

Apart from the careful search and selection of literature, the structuring of a line of argument is one of the most important steps when writing an academic paper. A well-thought-out and clear subdivision is not only a decisive factor for efficient writing but also with regard to the quality of the work. Ideally, the central theme of the work should immediately be discernible from the subdivision. The work should not be divided up too specifically, i.e. no more than one heading per page as a rule of thumb. In terms of content, an academic paper can always be roughly divided up into three sections: introduction, main body and conclusion.

Abstract

An abstract is a brief summary and serves to provide the reader with some quick orientation. It contains brief, clear information on the subject matter, the question addressed, hypotheses and the objectives as well as methods for developing the subject. Thereafter the results and conclusions of the paper are described. When drafting the abstract, the most important key concepts should be used, enabling the reader to navigate quickly through the work and search according to key words. The abstract should be comprehensible on its own. An abstract does not usually extend to more than half a page and is placed after the title page.

Introduction

The motivation behind the work is set out in the introduction. It serves to awaken the reader's interest. Suitable approaches here include situating the topic within a larger context or highlighting the current relevance of the topic. The introduction should primarily delimit and describe the questions addressed in the academic paper as precisely as possible. The structure of the work should also be explained at the end of the introduction. It is important to ensure that the central theme of the work is recognisable. Central concepts enabling an understanding of the subject should be defined in the introduction. It is advisable to draft the introduction and/or thoroughly revise it after the main section has been completed.

Main body
The subject in all its breadth and depth is dealt with in this section in a complete, structured and detailed fashion. Depending on the question addressed existing literature is discussed, the economic background and theory are imparted, the data used is described, the (econometric) methods employed are explained, the results are presented etc. Once again it should be stressed that the work's central theme should always be readily recognisable for the reader. It is important to render the relationship between economic theory and the results visible. The chapters should proceed logically developing what has been said previously; this should also be clear in the text. Unnecessary repetitions should be avoided. In particular, in the case of long and complex chapters, it is advisable to explain the essence of the chapter in one or two sentences and to draft a brief interim conclusion at the end of the chapter.

Conclusion
In the concluding section the main aspects and results of the work are summarised. The concluding section may also contain a critical opinion by the author. Here, a differentiated approach should be adopted when dealing with the literature referenced or the methods employed. The question posed in the introduction should be taken up once again and addressed in the light of the results obtained. In addition, the concluding section may include prospects for other possible approaches for dealing with the subject matter in question. If the results of the work provide information on better lines of action, for example from a political point of view, this should be taken up in the concluding section.

2.2 Search for material and sources

The most important search services and databases (with links), which may be useful when searching for material and sources, are listed below:

- Google Scholar: search service for academic articles
- Swissbib: catalogue of Swiss Academic Libraries and the Swiss National Library
- Datastream: comprehensive database containing economic and financial market data. Can only be accessed using a computer in the library at the Department of Economics.
- Further sources of data: Swiss Household Panel, BFS, BFS Atlas (database of the Federal Statistical Office with Swiss regional data right down to the level of

municipalities),SNB, Eurostat, OECD, World Bank, IMF, FRED (Federal Reserve Economic Data), FORS (surveys on topics relating to social sciences)

2.3 Review of literature

An essential part of the work is the review of literature. First, the literature must be structured, which will then make it possible to situate the literature selected within the context of the topic and critically examine it. Apart from collecting and reproducing literature it is important to adopt a critical perspective. Furthermore, the review of literature should allow you to obtain a more in-depth understanding of the entire subject-matter area. Generally speaking, a summary and reproduction of a text excerpt should only provide a meaningful summary of the content of the text. Condensing the text excerpt to core statements helps focus the reader's attention on the essential aspects. During the literature review the student acquires deeper knowledge of the subject matter. It may well be that during the initial analysis important points were left out and non-essential aspects were taken into consideration. Therefore, it is highly recommendable to re-appraise the literature.

2.4 Guidance for writing empirical papers

The precondition for empirical studies is sufficient familiarity with empirical methods, i.e. attendance of econometric courses is absolutely necessary.

In an empirical paper the dataset used must be adequately described. Where does the data come from? What variables does the dataset contain? Which selection criteria were employed? How were new variables generated? Care should be taken to ensure that all the steps involved in gathering and processing data are meticulously documented. An important point to bear in mind: non-documented manual changes to data are inadmissible. Most commonly available software packets offer the possibility of carrying out data transformations with the aid of text files (do-files in Stata, m-files in Matlab, R-files in R etc.). In any case the files used should be attached to the work in electronic format.

When presenting the results care should be taken to ensure that they are related to the research question and that they follow the line of argument. In particular, tables and graphs should only include the most important results; unimportant information should be kept to a minimum. If need be, key results can be highlighted in a separate table. In any case what matters is the interpretation of the results, i.e. the discussion of the results relating to the research question. Are the hypotheses supported or rejected by the data? Here, the right methods should be employed, i.e. discrete versus marginal effects, t-Test versus F-Test etc.

It is also extremely important to represent the whole process in such a way that an independent reader is able to comprehend and replicate all the ideas.

3 Formal aspects

3.1 Structure of a thesis

The work should be structured as follows:

- title page (see example in appendix);
- abstract: short summary of the work (not exceeding half a page);
- table of contents;
- main body of the work: introduction until the conclusion (see section 2.1);
- bibliography;
- an appendix if applicable;
- Declaration of Academic Integrity and signature (see example in appendix).

The **pages are counted** from the title page. The page numbering, however, commences on the next page. Pages should be numbered consistently in the footers. It is advisable to use Roman numerals up to and including the table of contents and to then start new page numbering using Arabic numerals from the introduction onwards.

3.2 Scope and formatting

What matters is not the scope but the ability to properly present and analyse the object of the investigation. Master theses, generally speaking, should not extend to more than 60 pages, bachelor theses to no more than 40 pages and seminar papers to no more than 25 pages of running text (excl. the appendix). These guidelines may vary according to the supervisor and should be clarified in advance. Given that the expectations are higher in the case of group work (synergy effects) the length of the work should not increase in proportion to the number of authors.

A commonly used font should be employed. Single-sided printing should be employed and the pages should be in DIN A4 format. The font size should be 12pt (proportional fonts are allowed) and line spacing of 1.5 should be used for normal text. A 10pt font size and line spacing of 1.1 should be selected for the brief summary (abstract) at the beginning and the footnotes. The running text should be aligned using text justification. The pages must be numbered consecutively, syllabification should be performed.

Drafting the work with the aid of the text processing program LaTeX greatly facilitates the task of the student especially when dealing with complex formulae and text formatting (a template is available on the homepage of the Department of Economics). Naturally, the use of other text processing software (e.g. Word) is also possible. In this case students should refer to the layout employed in LaTeX for guidance. Finally, it should be noted that students may not **use the university logo** for their own work.

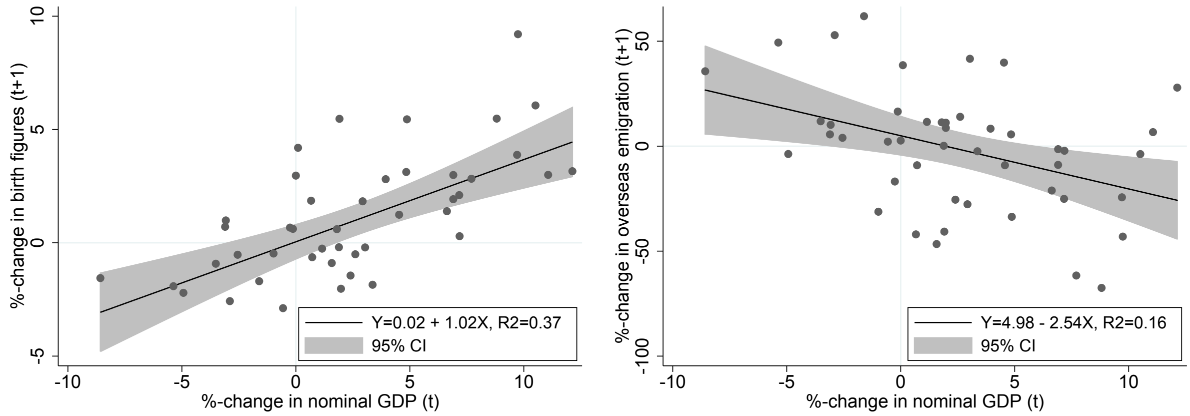
3.3 Language

The work may be written in German or English. The Department of Economics supports the drafting of seminar papers, bachelor theses and master theses in English. In the case of master theses, in particular, it is recommended that they are written in English. In any case, care should be taken to ensure that the style is polished. Spelling errors or grammatical errors will lead to the downgrading of the work.

3.4 Guidance on additions to text

3.4.1 Tables and figures

Tables and figures must be consecutively numbered. Apart from numbering they should be given a title with a clear description of their content. There must be reference to each table or figure in the text. If reference is made in the text to a table or a figure, they must be quickly and unambiguously locatable through the use of numbers and/or page numbers. Tables and graphs should indicate their source if they are based on primary material. Figure 1 provides an example of how to properly create a figure.



(a) Births

(b) Emigrants

Figure 1: Figure 1: Correlation between the percentage change in annual GDP (t-1) and the percentage change in the number of births or the number of emigrants (t), 1855-1900. *Source:* Online Database Historical Statistics Switzerland, `www.fsw.uzh.ch/histstat/`

Tables extending to several pages should be avoided wherever possible: they should either be separated into several individual tables or reduced in size. Tables and figures in landscape format should be arranged so that any text can be read by rotating it clockwise.

In general, tables should be **self-explanatory**, should not contain any superfluous information and should be formatted simply. Self-explanatory means that it should be possible to read the table without referring back to the description in the text. Here, the individual columns should be labelled, the variables should be given comprehensible names (avoid coded labels such as i00htyg!), an appropriate number of decimal places should be used (no more than four) etc. Any further information required to interpret the table can be placed below the table. A moderate use of horizontal and vertical lines improves the table's readability. A correct example of proper presentation and labelling is shown in table 1.

Table 1: The effect of class size on PISA test results

Explanatory variable	(1)	(2)	(3)	(4)
ln(class size)	-0.122^{***}	-0.095^{+}	-0.084	-0.086
	(0.039)	(0.051)	(0.056)	(0.057)
Gender: female		0.047^{***}	0.041^{***}	0.036^{***}
		(0.01)	(0.009)	(0.008)
Teacher's experience			0.063^{+}	0.051
			(0.034)	(0.047)
Language region: French				0.076
				(0.067)
Language region: Italian				-0.094
				(0.086)
School FE	No	Yes	Yes	Yes
R^2	0.05	0.25	0.31	0.31
N	12 850	12 850	12 850	12 850

Note: The dependent variable is the logarithmised total number of points obtained in the PISA Test of 2015. Robust standard errors are shown in brackets. Significance level: + $p<0.10$, * $p<0.05$, ** $p<0.01$ *** $p<0.001$.

In order to facilitate readability and enable the line of argument to be followed, secondary material containing tables and diagrams should be included in the appendix. Here, as in the main text, reference must be made in the running text to each table and figure.

3.4.2 Formulae

The symbols used in mathematical formulae should be clearly defined when they are used for the first time. The use of a uniform formula notation throughout the work facilitates comprehension.

As a rule, in order to enable cross-references between the formulae, they should be numbered. Here, the numbering can be divided up per chapter and should be placed consistently in the right-hand margin of the text. The formulae should be placed in the centre or left-justified and indented so as to separate them from the text, e.g.

$$y_i = x_i'\beta + u_i \tag{1}$$

3.4.3 Footnotes

In academic papers footnotes are mainly used for observations. They can be used to transmit information that would otherwise disrupt the running text, i.e. reference to further literature, references to other parts of the same text, departures from the main line of argumentation in the text. However, important information must appear in the running text

The point at which a reference to a footnote is placed in the text is indicated by a superscript figure at the end of the sentence (after the full stop).[1] The text in the footnote should be placed at the end of the same page. Wherever possible, footnotes should be numbered consecutively.

3.5 Citing sources and bibliography

In line with the provisions of the examination regulations, all ideas taken directly or indirectly from external sources must be clearly marked as such. Therefore, external sources should be rendered clearly visible in the running text (see chapter 3.5.1) and listed at the end in a bibliography (see chapter 3.5.2).

3.5.1 Citing sources

A source citation

- separates other authors' work from the student's own work (intellectual property, cf. Declaration of Academic Integrity);
- separates facts from the student's own opinions, judgements or assessments;
- and helps others in the search for further literature.

All the sources used for the work (persons providing information, statistics, specialist literature, unpublished texts, letters, films...) should therefore not only be listed in full in the bibliography and in the manner prescribed below but they should also be referenced according to the text from which they are taken, by including the bibliographical reference. An essential aspect is the adoption of a citation method that is uniform throughout the text and comprehensible from an external perspective.

In order to back up assertions (hypothesis X has been confirmed by fact Y) "'citable"' literature should be used, i.e. no grey literature (written or oral references) or non-specialist literature. Generally speaking, in order to further identify other people's ideas, any kind of document and even information by word of mouth may be used. Attention should be paid to the quality and the credibility of the sources cited.

[1] This is an example of how a footnote should be used.

Text sections reproduced verbatim should be placed between quotation marks. [..] is used if one word is left out and [. . .] if several words are left out. In general, a literal quotation should not extend to more than two or three sentences. If longer quotations are unavoidable, they should be visually distinguishable (e.g. indentation, single-line spacing). As a rule, the original text should be cited. A secondary source may only be cited if the original work is not available. In this case the source citation should also refer to the secondary literature using the words "'cited from"'.

An example: According to Angrist and Pischke (2008, pg. 52), "the causal connection between schooling and earnings can be defined as the functional relationship that describes what a given individual would earn if he or she obtained different levels of education."

Each citation must be checked to ensure that it has not been taken out of context, that it does not contain a meaning that differs from the meaning attributed to it by the author in the original text. In order to be able to check citations, the page number of the original text from which the citation is taken must always be provided in addition to the bibliographical reference.

Reference should be made to sources in the text using clear short references. Short references should generally include the name of the author and the year of publication. Care should be taken to differentiate between works by the same author published in the same year or between authors with the same name.

Beispiele:

1. If the author appears in the running text, the year of publication and the page number are indicated in brackets. ... Wooldridge (1994a) ... if there is another article by Wooldridge, it is marked 1994b. If reference is made to both articles then the years are separated by commas. ...Wooldridge (1994a, 1994b) ...

2. If the name has not been included in the running text, then the name and the year should be noted in brackets. ... (Wooldridge 1994a) ...

3. In the case of two authors both names are mentioned, if more than two authors are mentioned only the first author is mentioned and "et al" is added. ... Heckman et al. (1997) ...

4. Several sources are separated from one another in brackets with a semicolon. ... (Chamberlain 1984; McFadden 1987) ...
5. 5. Authors with the same name and the same year of publication are differentiated through the initials of their first names. ... H. White (1986) und M.J. White (1986) ...

If detailed references with additional information are required, they may be noted in the footnotes.

3.5.2 Bibliography

The bibliography must include all the primary and secondary sources used in the work classified uniformly and in alphabetical order. However, only sources that have actually been referred to the paper should be mentioned in the bibliography, i.e. there must be a reference to them in at least one place in the paper. Likewise, each source referenced somewhere in the text must be listed in the bibliography.

Original sources should be used wherever possible. If this is not possible, then the source from which the ideas have been adopted should be clearly indicated. Obviously, a detailed bibliography does not release the student from his or her duty to correctly identify any ideas that are not the student's own.

- Author's surname, first name (fully written out); in the case of several authors they should be listed by publishing house. If no author is mentioned, the publishing house should be indicated.
- Year of publication
- Title
- The provision of subtitles is optional; if they are provided then this should take place consistently for all publications
- Articles in anthologies, specialist journals etc. must be accompanied by the word "in" with corresponding information on the journal/anthology. The publishing house should be indicated using "ed."
- Edition (apart from first editions)

- Place(s) of publication, if the work was published in more than two places then only the first place should be indicated together with the addendum ”and other places”.

In personal interviews the interview partner’s position and the date and place where the interview was conducted should be indicated. Sometimes individual items of information are missing from the original source, and this should be noted accordingly, i.e. no author given (“N.N.”) or no year indicated (“NYI”).

Examples for citing different sources:

Journal

Romer, Paul. 1986. Increasing Returns and Long-Run Growth, *Journal of Political Economy* 94, p. 1002-1037.

Working Paper

Gorton, Gary. 2012. Some Reflections on the Recent Financial Crisis, NBER Working Paper No. 18397, NBER: Cambridge MA.

Monographs

Jones, Charles. 1998. *Introduction to Economic Growth*, New York: W.W. Norton.

Häder, Michael. 2010. *Empirische Sozialforschung: Eine Einführung*, 2. Auflage, Wiesbaden: VS Verlag für Sozialwissenschaften.

Anthologies

Ahearne, Alan, Birgit Schmitz und Jürgen von Hagen. 2008. Current Account Imbalances in the Euro Area, in Anders Aslund und Marek Dabrowski (ed.): *Challenges of Globalization, Imbalances and Growth*, Washington DC: Peterson Institute for International Economics.

Newspapers

Andiel, Christian. 2007. Mit Pay-per-View zu den lukrativen Sport-Events. in: *Der Bund* published 27 May 2007, no. 34, Berne.

Internet

FSO, Federal Statistical Office. 2007. Annual Construction and Housing Statistics of the Federal Statistical Office. Construction expenditure. Accessed on 1 October 2012 at http://www.bfs.admin.ch/bfs/portal/de/index/themen/09/22/lexi.Document.21201.xls

Decisions

Canton of Basel City. 2007. Governing Council of the Canton of Basel-City. Advice, credit for the planning, organisation and staging of the UEFA European Championship 2008 in the Basle region, Decision of Governing Council of 9 January 2007, Basel.

Interviews

Schneider, Artur. 2010. CEO Schneider AG, Persönliches Interview of 16.01.2010, Berne.

4 Appendix

The following three pages include a checklist before submitting the paper and a specimen title page and Declaration of Academic Integrity (in German).

Declaration of Academic Integrity **Checklist**

The following points should be checked before handing in the written paper:

- ☐ There should be consistency between the title and the content of the chapter;
- ☐ Structuring text elements at the beginning and end of long chapters are present.
- ☐ The work is characterised by polished formatting without grammatical, spelling or punctuation errors.
- ☐ All the figures and tables included are referred to in the text and vice versa.
- ☐ All the references to sources in the text can be found in the bibliography and, vice versa, all the sources listed in the bibliography are mentioned in the text.
- ☐ The title and page numbers in the table of contents are correct.
- ☐ In the case of empirical papers: data and scripts ready for submission.
- ☐ The student has clarified with his or her supervisor the number of printed and bound copies of the paper that have to be submitted.
- ☐ The Declaration of Academic Integrity in every copy has been signed by hand.

Immigrants in the Swiss labour market: An empirical study of census data 1970 – 1990

Bachelor/Master thesis
at the

Faculty of Business, Economics and Social Sciences of the University of Berne

supervised by
Prof. Dr. XXX YYY
for the award of the title of "Bachelor/Master of Science in Economics"

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Selbständigkeitserklärung

Ich erkläre hiermit, dass ich diese Arbeit selbstständig verfasst und keine anderen als die angegebenen Quellen benutzt habe. Alle Stellen, die wörtlich oder sinngemäss aus Quellen entnommen wurden, habe ich als solche gekennzeichnet. Mir ist bekannt, dass andernfalls der Senat gemäss Artikel 36 Absatz 1 Buchstabe o des Gesetzes vom 5. September 1996 über die Universität zum Entzug des aufgrund dieser Arbeit verliehenen Titels berechtigt ist.

Bern, DD.MM.YYYY

(Unterschrift)