

Guidelines for writing a final paper at the chair of Prof. Dr. John P. Haisken-DeNew

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1 Preliminaries

The following guidelines provide some help to students who write a final paper (Bachelor thesis, Master thesis or Diplomarbeit) at the chair of Prof. Dr. John P. Haisken-DeNew. It includes guidelines that help you to develop a leitmotif and inform you about the formal standards. The formal structure of your paper **must** comply with the guidelines stated below. Note that non-compliance will result in a lower grade.

For a good paper it is always important to work systematically because it saves time and avoids confusion at the end of your working time. If you have any questions concerning the content of your paper you are welcome to ask your supervisor via email or face to face. Do not expect an answer one or two days before the deadline! Also, any papers handed in after the deadline will not be considered for grading, i.e. they automatically result in a failing grade.

2 Purpose

The purpose of a final paper is to

- show that you are able to deal with a specific research question yourself
- show that you can analyse relevant scientific literature
- apply scientific methods
- write a professional scientific economic paper

3 Content

In general, a scientific paper consists of an analysis of a specific research question. The research question has to be stated directly and clearly understandable in the introduction of your paper. The following chapters of your paper lead step by step to the answer of this question. In the end of your paper you state your answer and own opinion. Please make a clear, unambiguous statement. Some of you might not find an answer like “YES” or “NO” to the research question they pursue but – as so often in Economics – “IT DEPENDS”. Whatever your answer is, explain the pros and cons in a few sentences.

Make sure that everything you write refers to your research question. Do not give additional information that is not necessary for answering your question. Your argumentation has to be comprehensible and reasonable.

4 Literature research

Literature research is essential for any piece of scientific work. Literature research should be the first step of your working process. The literature provided by the chair serves to get

acquainted to the topic you are dealing with. You do not have to use these suggestions and you do not have to cite these articles – but you can. However, you have to find additional literature that is relevant to your topic.

There is no optimal number of resources. Important is quality and relevance and not quantity.

Choose your resources carefully and be aware of the fact that not every resource is appropriate for a final paper in economics. In particular, you should not cite:

- Wikipedia or another online-encyclopaedia
- Magazines and newspapers such as Men's Health, Bild, Mickey Mouse
- Magazines and newspapers such as Spiegel, Financial Times and Süddeutsche Zeitung can be used but should be chosen carefully and only if they really contribute to answering your question.

Those student who search for relevant literature for the first time are asked to participate in an introduction by the university library or here: <http://www.ruhr-uni-bochum.de/wiwi-bibl/literatursuche.html>

Here are some hints:

1. Start with references you already know (from courses, or recommendations of supervisors). See what they have cited that looks relevant and look it up. Make use of abstracts to decide whether papers are worth following up in more detail. (You can get a lot from abstracts – read them carefully.)
2. If you know a seminal article on the topic, see who has cited it. You can use e.g. the Social Science Citation Index.
3. Search for Keywords, by JEL classifications, and for other work by authors whom you know have written important articles using e.g. EconLit.

For a focused literature research you can find several catalogues and literature databases on the internet. To some of these databases full access is only given at university computers. Alternatively, you have access via a VPN-connection. See here: <http://www.rz.ruhr-uni-bochum.de/dienste/netze/vpn.html>

Possible catalogues and databases for your literature research are:

- Google
- ideas.repec
- EconLit

- SSRN
- Econpapers
- JSTOR
- Business Source Premier
- EZB (Elektronische Zeitschriftendatenbank)
- Wiso-net
- Econbiz
- OPAC (Vollständiger Katalog der Universitätsbibliothek Bochum)
- Google Scholar

In case the piece of literature you need is not available at the RUB, it can be ordered via “Fernleihe” from other libraries. Therefore every student who writes a final paper is eligible to free TAN-numbers (10 for Bachelor theses, 15 for Diplomarbeiten) which are available from the faculty library.

5 Formal requirements

The formal structure of your thesis must comply with the following guidelines. Non-compliance will result in a lower grade or even failing.

5.1 Length of the paper

Diplomarbeit and Master thesis

Generally, the main part of your thesis – your text, i.e. introduction, analysis and conclusion – must add up to 40-60 pages. This number does not include tables, figures, cover, list of literature, list of contents etc. It is important that your arguments are concisely formulated. Moreover, if your analysis is short but effectual, do not prettify it on purpose of lengthening. It is to discuss with your supervisor if you can write more than 60 or less than 40 pages. Also, the length and the time you spend on your thesis depends on the type of your thesis (empirical, experimental, mathematical or purely literature based). After you handed in your thesis, it follows an oral exam which is part of your mark.

Bachelor thesis

Generally, the main part of your thesis – your text, i.e. introduction, analysis and conclusion – must add up to 20-25 pages. This number does not include tables, figures, cover, list of literature, list of contents etc. It is important that your arguments are concisely formulated.

Moreover, if your analysis is short but effectual, do not prettify it on purpose of lengthening. It is to discuss with your supervisor if you can write more than 25 or less than 20 pages. Also, the length and the time you spend on your thesis depends on the type of your thesis (empirical, experimental, mathematical or purely literature based). After you handed in your thesis, it follows and oral exam which is part of your mark.

5.2 Structure

The final paper should consist of the following elements:

- Cover page (without page number)
- List of contents (Roman paging)
- List of tables (Roman paging)
- List of figures (Roman paging)
- List of symbols and abbreviations (Roman paging)
- Text (Arabic paging)
- List of literature (Arabic paging)
- Appendix with notation “A1”, “A2” etc. (Arabic paging)
- Affirmation

A final paper should not have a list of abbreviations and symbols. If you think it is really necessary to use abbreviations, explain them in your text. Here is an example how to use abbreviations in a scientific paper:

“I am student at the Ruhr-University of Bochum (RUB). When I write a final paper at the chair of Prof. Dr. Haisken-DeNew at the RUB I have to write out the word the first time I use it and write the abbreviation behind it in parantheses. In the rest of the text I can use the abbreviation. This procedure is common in scientific papers and not only used at the RUB.”

5.3 Format of the text

Before you start writing your paper is useful to set the format in your word processing program (MS Word, L^AT_EX). The following requirements are mandatory:

Text element	Formal requirement
Left margin	2.5 cm
Right margin	2.5 cm
Upper margin	2.5 cm
Lower margin	2.0 cm
Linespacing text	1.5
Linespacing footnotes	1
Text alignment	justify (Blocksatz) with syllable division
Font	Times New Roman (MS Word), default (\LaTeX)
Font size text	12
Font size footnotes	10

5.4 Tables and Figures

Tables and figures in the text are to be numbered consecutively. Every table and figure has a title, names the source and if necessary has an explanation. The content of the table or figure is to be mentioned within the text. Here is an example:

Table 1: Example table

Characteristic	Item 1	Item 2	Item 3
X	A	B	C
Y	a	b	c
Z	<i>a</i>	<i>b</i>	<i>c</i>

Source: Bauer et al. (2001), p.5.

Notes: The variable X is...

5.5 Formulas

Formulas should only be used if they contribute to your analysis. Do never (!) include formulas if you do not understand the meaning. Always (!) explain all variables and what the formula represents. If you use more than one formula in your text, the formulas are to be numbered consecutively. Here is an example how to embed a formula in a scientific paper:

$$y_i = \alpha + \beta X + \gamma Y + \delta Z + \epsilon \quad (1)$$

6 Citation

Whenever you use someone else's ideas in your text you need to give credit with a citation. Usually citations include indirect citations. Such a general citation could be "according to Haisken-DeNew and Schmidt (1997), p. 24, the usage of...". Direct citations should only be used if you want to stress the authors' formulation or choice of words. Then this passage has

to be enclosed in quotation marks and written in italics. Long passages (more than 2 lines) should be indented from upper and lower margins with a single line space without quotation marks.

Do not cite ideas when you have not read the original piece of work. Only because someone else cites another author you cannot trust that it is true. Always read the original when you want to cite an author's idea.

Please always cite in the text and not in footnotes. You find many examples below.

To avoid plagiarism read and stick to the following:

- Every time you use someone else's ideas you have to give credit with citation
- It is important that you cite appropriately
- When you think something is "common knowledge", e.g. basic theory of individual utility maximisation, try to find out who was the first who argued that individuals maximise utility. You need not cite in cases where economic textbooks do not cite this case
- Empirical papers are usually very specific and must be cited
- When you are in doubt, better cite too often than too few!

Any case of plagiarism will result in a failing grade and we have to publish it to the "Prüfungsamt". Note that plagiarism in a final thesis (Bachelor, Master, Diplom) will lead to exmatriculation, the prohibition of finalising your studies at other universities and monetary penalties.

Here are example citations (taken from Reed College: <http://academic.reed.edu/economics/parker/Citations>)

1. Non-quoted citation as part of a sentence:

According to Schama (1987), p. 13, opium was also transported to the Netherlands, where it was smoked with tobacco.

2. Non-quoted citation not part of a sentence:

In the discussion about the consumption of addictive goods, some distinctions are relevant (Chaloupka 1991, pp. 677-678).

3. Multiple citations not part of a sentence:

Advocates of tort reform criticize the tort system for unpredictability (see Huber 1988, p.67; Huber and Litan 1991, p.4798).

4. Citing multiple works by the same author:

Lucas (1984) and Lucas and Stokey (1983, 1987) consider cash-in-advance models in which some goods can be purchased "on credit."

5. Multiple works by same author in same year:

Studies of precautionary saving in response to earnings risk include Cantor (1985), Skinner (1988), Zeldes (1989), Kimball (1990a, 1990b), and Caballero (1991), among others ...

6. Citations of papers with many authors:

Becker et al. (1994) analyse U.S. cigarette consumption using micro panel data from a survey of individuals.

7. Citation of forthcoming paper:

Some examples from the literature include Jones (1976), ... and Wright (forthcoming).

8. Citation appears in parenthetical expression:

Another example occurs when parents expect to be supported by their children in old age; each additional dollar of wealth accumulated by parents reduces the amount of support given to them by their children (for a theoretical model, see, e.g., O'Connell and Zeldes [1993]).

9. Referring to a specific part of a source:

Ausubel (1991, p. 70, table 11) reports that roughly 25 percent of customers avoid finance charges by always paying off their accounts in full each month.

10. Short direct quotation:

Greene (1992, p. 19) reports several indicators of past delinquencies that banks obtain from credit bureaus and use as indicators of default probability when processing credit card applications. He estimates a probit equation for approval of an application and reports that "the most significant explanatory variables are the number of major Derogatory reports and credit bureau inquiries (negative) and the number of open trade accounts (positive)."

The last sentence might more commonly be written as: In an estimated probit equation for approval of an application, "the most significant explanatory variables are the number of major derogatory reports and credit bureau inquiries (negative) and the number of open trade accounts (positive)" (Greene 1992, p. 19).

11. Citation of anonymous work:

According to a recent article in the Economist (1994, ed. 11, p. 18), inflation in China may be rising. The word "The" is traditionally omitted from the title even though it appears on the title page of the newspaper.

12. Indirect citations:

Arturo Oscuro has argued that citation practice is of great importance (Oscuro 1945, cited in Hunter 1994).

Note that the last example is rarely used.

7 List of literature

Every source you use in your paper and cited is to be listed in the list of literature. Those sources you did read but did not cite are not listed. The list is alphabetical. The formal requirements shown below are also taken from Reed College: <http://academic.reed.edu/economics/parker/Cita>

1. Single-author journal article:

Surname, First name. Year. Title. *Name of the Journal* Issue number (Month): page numbers.

Chaloupka, Frank (1991) "Rational addictive behavior and cigarette smoking" *Journal of Political Economy*, Vol. 99 (August), pp. 722-742.

2. Two-author journal article:

Surname 1st author, First name 1st author and first name 2nd author, surname 2nd author. Year. Title. *Name of the Journal* Issue number (Month): page numbers.

Becker, Gary S., and Kevin M. Murphy (1988) "A theory of rational addiction" *Journal of Political Economy*, Vol. 96 (August), pp. 675-700.

3. More-than-two-author journal article and multiple works by same author(s):

Becker, Gary S., Michael Grossman, and Kevin M. Murphy (1991) "Rational addiction and the effect of price on consumption" *American Economic Review Papers and Proceedings*, Vol. 81 (May), pp. 237-241.
— (1994) "An empirical analysis of cigarette addiction" *American Economic Review*, Vol. 84 (June), pp. 396-418.

The line in the second entry is not underscores, it is three em dashes with no spaces between. (To get an em dash in MS Word, type Command-Option-Q, then the number 209, then Return.)

4. Forthcoming articles:

Wright, Randall (Forthcoming) "Search, evolution and money" *Journal of Economic Dynamics and Control*.

Use this format for works that are known to be forthcoming but for which the exact year, volume, and page numbers are not yet known.

5. Working papers or other unpublished work:

Laitner, John (1990) "Random earnings differences, lifetime liquidity constraints, and altruistic intergenerational transfers" University of Michigan, Ann Arbor. Photocopied.

Hoover, Dale M., and Sophia I. Efstratoglou Todoulos (1973) "Economic effects of Intercounty transfer of flue-cured tobacco quota" Economics Research Report no. 23. Dept. of Econ. and Bus., North Carolina State Univ., Raleigh.

6. Multiple works by same author in same year:

Kimball, Miles S. (1990a) "Precautionary saving and the marginal propensity to consume" Working Paper no. 3403, NBER, Cambridge, Mass.
— (1990b) "Precautionary saving in the small and in the large" *Econometrica*, Vol. 58 (January), pp. 53-73.

7. An entire book:

Surname, First name. Year. Title. *Name of the Book*. Publisher.

Schama, Simon (1987) *The Embarrassment of Riches: An Interpretation of Dutch Culture in the Golden Age*. New York: Knopf.

8. A book with an edition number:

McCullagh, Peter, and John A. Nelder (1989) *Generalized Linear Models*. 2d ed. London: Chapman & Hall.

9. An article with an author from a newspaper:

Rose, Robert L. (1990) "For welfare parents, scrimping is legal, but saving is out" *Wall Street Journal*. 6 February.

10. A paper from a collected volume:

Lerman, Steven R., and Charles F. Manski (1981) "On the use of simulated frequencies to approximate choice probabilities" In *Structural Analysis of Discrete Data with Economic Applications*, edited by Charles F. Manski and Daniel McFadden. Cambridge, Mass.: MIT Press.

11. A government document with an agency author:

U.S. House. Committee on Ways and Means (1991) *Overview of Entitlements Programs: 1991 Green Book*. Washington: Government Printing Office.

12. A corporate author:

Ibbotson Associates (1991) *Stocks, Bonds, Bills, and Inflation: Market Results for 1926-90*. New Haven, Conn.: Ibbotson Assoc.

Note that Ibbotson Associates appears as both author and publisher since there is no specific author given.

13. An anonymous article from a newspaper:

Economist (1994) "China's pig of a problem" 17 September, pp. 35-36.

14. Secondary sources:

Obscuro, Arturo (1944) "Why citation practice matters" *American Bibliographical Review* Vol. 23, pp. 362-395. Quoted in Ebenezer Hunter, *The History of Plagiarism* (Portland, Ore.: Reed College Press, 1994).

This style of citation is acceptable only if you are unable, with reasonable perseverance, to obtain the original source. You should always use the original if possible. When you are unable to do so, use this form of entry in the list of references.

15. Titles and subtitles:

Layard, Richard, Stephen Nickell, and Richard Jackman (1991) *Unemployment: Macroeconomic Performance and the Labour Market*. Oxford: Oxford Univ. Press.

Many books have titles and subtitles. It is a matter of judgment whether the inclusion of the subtitle is sufficiently informative to be warranted. In the case above, the one-word title *Unemployment* seems too brief, so the subtitle is shown. A colon separates the title from the subtitle even if no punctuation is used on the cover page of the book or article.

8 Content and style

8.1 Structure

Before you start writing it is necessary to find a structure for your argumentation. This makes writing easier and also gives you an overview of the parts that you have to complete. If you discuss more than one theory, hypothesis etc. in your main part, separate them by sections and subsections. Subsections should never stand alone, i.e. when there is 2.1, it has to be followed by 2.2. You can use subsections only if it is really necessary (e.g. 2.2.1 and 2.2.2). Try to avoid more levels in your thesis.

The written part of your paper should consist of

- Introduction
- Analysis (main part)
- Conclusion

8.1.1 Introduction

The introduction leads into the topic/problem and prepares the reader of what to expect. The following aspects need to be clarified:

- What is the question you are going to answer?
- Why is the topic/question important?
- How does the text lead to the answer (methodology)?
- What is the status quo of research?
- How is the following text structured?

The introduction develops the leitmotif on which the text builds. The introduction should be approximately 10% of the whole text and should not have subsections.

8.1.2 Analysis

The analysis makes up the main part of your paper. Here you discuss the topic using your own words while citing other authors' arguments. Often it is necessary to explain the underlying economic theory to the topic you are dealing with and in another chapter mention empirical findings of at least two authors. If you find different results from different authors try to explain why they are different. Link the arguments logically so that is easy to read and understand. If you have subsections in your main part, explain why they are necessary and introduce the following section in one sentence. Here is an example:

2.1 The Migrant Wage Gap

[...] Winter-Ebner and Zimmermann (1998) analyse the relationship between trade and migration in Austria and Germany. They find that immigration influences the wages in general positively whereas trade does not show a significant effect on wages (Winter-Ebner and Zimmermann, 1998, p. 19).

2.2 Foreign Direct Investment and Wages

More attention has been paid to skill wage differentials in the economic literature. Different determinants such as [...]

8.1.3 Conclusion

The conclusion should first summarise your findings briefly and reveal possible consequences of your findings. The question or hypothesis mentioned in the introduction should be – if possible – answered. The conclusion should not consist of subsections. Also, it should amount to about 10% of your whole text.

8.1.4 Example of a list of contents

List of contents

1. Introduction
2. Theoretical background
 - 2.1 Human capital model
 - 2.2 Migration incentives
3. Empirical findings
 - 3.1 Germany
 - 3.2 U.S.

3.3 China

4. Conclusion

8.2 Style

A final paper is a scientific paper. Hence, the language style has to be appropriate. This does not mean you have to formulate long and complicated sentences. Contrary, please use short, precise and well structured sentences. Nobody likes to read a sentence two or three times to understand it.

Generally, the text should be written in your own words. Do not stick to the language of e.g. the article you read last. Moreover, do not use filler words such as “well,...” and avoid expletives like “stupid” or “cool”. If you write in German, you can adapt the English technical terms such as “die Vorteile des Fixed-effects-Schätzers sind...”. However, if there does exist a German word which is commonly used in the literature, use the German translation, e.g. “Die Kleinste-Quadrate-Methode (Ordinary least squares) ist...”.

Symbols, metaphors and other stylistic matters have to be used with caution. Only use them if appropriate.

Try to avoid “I”, “me”, “we”. Instead you can use the passive form, e.g. “In the next chapter it will be shown that...” instead of “In the next chapter I will show that...”. Also, avoid colloquial language.

Let some friends or family members read your paper to find mistakes you and your spell checker did not find.

References – Example

Haisken-DeNew and Schmidt (1997) “Interindustry and Interregion Differentials: Mechanics and Interpretation”, *Journal of Economics and Statistics*, Vol. 79 (3), pp. 516-521.

9 Assertion example

Versicherung

Ich versichere, dass ich die Diplomarbeit selbstständig und ohne Benutzung anderer als der angegebenen Hilfsmittel angefertigt, nur die angegebenen Quellen benutzt und die den benutzten Quellen wörtlich oder inhaltlich entnommenen Stellen als solche kenntlich gemacht habe. Die Arbeit hat in gleicher oder ähnlicher Form noch keiner anderen Prüfungsbehörde vorgelegen.

Bochum, den _____

(Unterschrift)

10 Cover examples

Title

Master thesis
Chair for Competition Theory and Policy
Prof. Dr. John P. Haisken-DeNew

Supervisor: xxx

written by:
First Name Surname
Matrikelnummer: xxx
Address

Date

RUHR
UNIVERSITÄT
BOCHUM

RUB

Ruhr-Universität Bochum

Fakultät für Wirtschaftswissenschaft

Diplomarbeit

über das Thema
{Thema der Diplomarbeit}

Eingereicht bei

Prof. Dr. John P. Haisekn-DeNew

Lehrstuhl für Wirtschaftspolitik,

insb. Wettbewerbstheorie und -politik

von Martin Mustermann, B.A.

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Abgabetag: TT. Monat. JJJJ