

---

# Guideline for writing scientific papers

---

Friedrich-Alexander-Universität Erlangen-Nürnberg

School of Business, Economics and Society

Chair of Economics, esp. Macroeconomics

Prof. Dr. Christian Merkl

Status: September 18, 2023

---

# Contents

<b>1</b>	<b>General information</b>	<b>1</b>
<b>2</b>	<b>Formal requirements</b>	<b>1</b>
2.1	Structure . . . . .	2
2.2	Frontpage . . . . .	3
2.3	Directories at the beginning of the work . . . . .	4
2.4	Text . . . . .	4
2.5	Citation and bibliography . . . . .	4
2.6	Declaration of Originality . . . . .	8
<b>3</b>	<b>Further remarks</b>	<b>8</b>
	<b>References</b>	<b>9</b>
<b>A</b>	<b>Latex template</b>	

# 1 General information

There are several important rules to follow when writing scientific papers. This guide contains an introductory discussion of these requirements.

When writing scientific papers, the student is expected to take the initiative. This includes first and foremost independent further literature research. If, for example, literature is provided by the chair, this can only be regarded as introductory. A more in-depth research by the author is absolutely necessary. In addition, the literature used should be representative of the breadth of the topic dealt with. A paper should therefore not merely summarize a basic text.

The literature used should be as generally accessible as possible in order to make thoughts in the paper comprehensible. If this is not the case, it can be made available in consultation with the examiner/supervisor. In any case, the latest edition or publication of the sources used should be cited. For a first start, the online catalog in the library, Google Scholar, JSTOR or Science Direct are suitable.

It is always advisable to question the used literature *critically*. The published thoughts are to be examined argumentatively in the context of the work. If remarks are taken over analogously, these are to be marked accordingly.<sup>1</sup> Also, in principle, *value judgements* are inappropriate in a scientific paper. If they are nevertheless used, the underlying value standard must be explained.

In addition to careful handling of literature, taking the initiative also means independently approaching the supervisor in the event of serious problems of any kind.

## 2 Formal requirements

Besides these general remarks, mainly formal rules have to be observed. Thus, in general, a term paper is to be set at a maximum of 15 pages, a bachelor's thesis at 30 pages and a master's thesis at 40 pages. There is a tolerance frame of  $\pm 10\%$ . The limitation refers to the written text including footnotes, important graphics as well as important tables. Appendices and indexes do not count. Graphics and tables are considered important if they are necessary for understanding the text. In such a case, "outsourcing" to the appendix is not appropriate.

Furthermore, the paper is to be written in DIN A4 format, with a line spacing of 1.5 and preferably in justified type. The font size is 12pt. The use of Times New Roman is common practice at the university. However, other fonts may also be used. It is recommended to choose a serif font.

---

<sup>1</sup>See section 2.5

The margins of the document are to be selected as follows: The left margin must be between 3.5 and 4 cm (depending on the binding). The other margins (right, top and bottom) are to be selected uniformly with 2.5 cm.

The pages of the work are numbered. Only the title page does not have a page number. Before the beginning of the main text, the numbering is in small roman numerals. Beginning with the first page of the main text, numbering is done again in arabic numerals starting at 1. This numbering is also continued in the appendix until the end of the paper.

Footnotes, if they refer only to a single term, are placed directly after it in the text (no space between term and footnote). If it refers to a fact that is clarified in the entire sentence, the footnote is placed immediately after the last punctuation mark. Footnotes are numbered consecutively throughout the paper. They are to be printed on the page of reference in the same font as the text at 10pt size and single line spacing below the text.

## 2.1 Structure

Structurally, some formalities must also be observed in written scientific work. Basically, this concerns first of all the logical structure of the work. Chapters should only be subdivided into subchapters if at least two subchapters result logically. The same applies to any further subdivision. In practice, this means that in no case can there be only one subdivision on one level.

A negative example would be:

<b>1 Chapter</b>	<b>2</b>
1.1 Subchapter . . . . .	2
<b>2 Chapter</b>	<b>2</b>

The subdivision into subchapter 1.1 would be unnecessary here. A paragraph in the first chapter would be more appropriate. A proper structuring contains at least two elements on one outline level:

<b>1 Chapter</b>	<b>2</b>
1.1 Subchapter . . . . .	2
1.2 Subchapter . . . . .	2
<b>2 Chapter</b>	<b>2</b>

Around the main text the work is to be built up as follows:

1. **Frontpage**
2. **Table of contents**
3. Other directories
  - ⇒ List of figures
  - ⇒ List of tables
  - ⇒ List of symbols
  - ⇒ List of abbreviations
4. **Text**
5. **References**
6. Appendix
7. **Declaration of Originality**

Here, the outline features printed in bold are to be observed in any case. The bullet points that are not printed in bold should be included in the paper at the appropriate place, if required.

## 2.2 Frontpage

The design of the title page is basically up to the author. However, it must always contain the title of the paper, the type of paper (seminar paper, bachelor's or master's thesis), the name of the author, and the place and date. Also, the title page generally does not bear a page numbering.

## 2.3 Directories at the beginning of the work

This subsection deals with the proper layout of the directories (Structure item 2 and 3).

The table of contents is located between the title page and the main text and should be placed before the other tables in structure item 3. It should be clearly arranged. The headings in the table of contents must correspond to the headings in the text. The page numbers for the individual chapters should also be noted. If other directories are included, they should also be noted in the table of contents.

Other lists that are usually common are the list of figures and the list of tables. These are included in the paper if there are two or more figures or tables in the paper. The referencing is similar to that in the table of contents (heading and page number of the graph or table).

Whether a list of symbols or a list of abbreviations makes sense in the work is at the discretion of the author. Such lists are not the rule. Usually, abbreviations and symbols are explained directly in the body text.

## 2.4 Text

The text is to be written fluently in German or in English. The design is entirely up to the author.

## 2.5 Citation and bibliography

The design of the bibliography and citations is basically up to you, but should be consistent and clearly readable. One possibility is to follow the American model. Accordingly, citations are made in the flowing text and the bibliography is located after the main text and before the appendix.

It is quoted either directly or indirectly. *Direct or indirect* quotations are to be marked by quotation marks. It is even better to indent the quotation separately. Whether this makes sense, however, depends on the use of the quotation in the context of the work. However, literal quotations are the exception. They occur if something is to be particularly emphasized. Usually *indirect* quotation is used. In the case of direct reference, the authors plus the year are to be included in the continuous text in round brackets. In the case of indirect reference, both the authors and the year of publication are placed in parentheses at the appropriate point. If more than two authors have contributed to a cited source, they are named by the last name of the first author plus the abbreviation "et al." for the remaining authors and the year of publication in round brackets. An example of proper citation in each situation is shown in the following listing:

**Indirect citations:**

”Having looked at monetary policy from both sides now, I can testify that central banking in practice is as much art as science. Nonetheless, while practicing this dark art, I have always found the science quite useful.“

Alan S. Blinder (Blinder 1997, p. 17)

**Indirect citation with direct reference:**

The outstanding paper by Clarida et al. (1999) constitutes a milestone in the study of modern monetary policy phenomena. In contrast, Christiano et al. (1999) describe more of an empirical approach. Fundamentally, however, Ljungqvist and Sargent (2012) best describe the capabilities of modern macroeconomic models...

**Indirect citation with indirect reference:**

While time-varying VAR models tend to assume a slow adjustment of the economy (Primiceri, 2005; Cogley and Sargent, 2005), Markov chain switching regime models postulate a rapid change (Sims and Zha, 2006)....

The sources of the work are to be listed alphabetically by author name in the bibliography. Below are some examples of how to present them in the bibliography. However, you are free to choose your own preferred format.

**Books:**

Last, first name of the first author, first and last names of the other authors. Year of publication. Title and publisher (edition, if any).

Example:

**Ljungqvist, Lars, und Thomas J. Sargent.** 2012. *Recursive Macroeconomic Theory, Third Edition.* The MIT Press.

**Romer, David.** 2012. *Advanced Macroeconomics. The McGraw-Hill series in economics,* McGraw-Hill Education.

**Woodford, Michael.** 2011. *Interest and Prices: Foundations of a Theory of Monetary Policy.* Princeton University Press.

**Book contributions:**

Last, first name of the first author, first and last names of the other authors. Year of publication. Title of the article in quotation marks. “In” title of the book. Edition, if applicable. “Ed. by” first and last names of editors. Publisher.

Example:

**Bemanke, Ben, und Harold James.** 1991. “The Gold Standard, Deflation, and Financial Crisis in the Great Depression: An International Comparison.” In *Financial Markets and Financial Crises*. Hrsg. von R. Glenn Hubbard. NBER.

**Christiano, Lawrence J., Martin Eichenbaum, und Charles L. Evans.** 1999. “Monetary policy shocks: What have we learned and to what end?” In *Handbook of Macroeconomics*. Vol. 1, Hrsg. von J. B. Taylor und M. Woodford. Elsevier.

**Journals:**

Last, first name of the first author, first and last names of the other authors. Year of publication. Title of the paper, title of the journal (in italics), year/volume plus number of the journal in round brackets: page numbers.

Example:

**Bussière, Matthieu, Jean Imbs, Robert Kollmann, und Romain Rancière.** 2013. “The Financial Crisis: Lessons for International Macroeconomics.” *American Economic Journal: Macroeconomics*, 5(3): 75–84.

**Clarida, Richard, Jordi Gali, und Mark Gertler.** 1999. “The Science of Monetary Policy: A New Keynesian Perspective.” *Journal of Economic Literature*, 37(4): 1661–1707.

**Sims, Christopher A., und Tao Zha.** 2006. “Were There Regime Switches in U.S. Monetary Policy?” *American Economic Review*, 96(1): 54–81.

**Unpublished literature:**

So-called gray literature includes working papers, discussion papers and manuscripts. The corresponding contributions are to be marked according to their status.

Last, first name of the first author, first and last names of the other authors. Year of publication. Title of the paper in quotation marks, status of publication (Discussion, Working Paper or *Mimeo* if not available). If applicable, place/date.

Example:

**Berka, M., M.B. Devereux, und C. Engel.** 2013. “Real Exchange rates and Sectoral Productivity in the Eurozone.” *Mimeo*. 03. Dezember 2013.

**Koijen, Ralph, Tomas Philipson, und Harald Uhlig.** 2014. “Financial Health Economics.” National Bureau of Economic Research, NBER Working Papers 20075.



**Mertens, Karel, und Morten O. Ravn.** 2011. "A New Approach to the Estimation of Tax Multipliers." Society for Economic Dynamics, 2011 Meeting Papers 852.

**Taylor, John.** 2014. "Causes of the Financial Crisis and the Slow Recovery: A 10- Year Perspective." Stanford Institute for Economic Policy Research, Discussion Papers 13-026.

### Online sources:

Last, first name of the first author, first and last names of the other authors. Year of publication. Title of the source in quotation marks, URL, information about the time of access.

Example:

**Bernstein, J., und C. Romer.** 2009. "The Job Impact of the American Recovery and Reinvestment Plan, <http://www.thompson.com/images/thompson/nclb/openresources/obamaeconplanjan9.pdf>." [Online; Stand 04. September 2014].

### Institutional sources:

If annual reports or other publications of an institute are used, these must be included in the bibliography as follows. The same applies to data sources. Text abbreviation of the institute.

Year of publication. Title of the publication in quotation marks. Name of the institute. Place of publication and URL, if applicable.

Example:

**IMF.** 2014. *World Economic Outlook – Recovery Strengthens, Remains Uneven*. International Monetary Fund, Washington D.C.  
<http://www.imf.org/external/pubs/ft/weo/2014/01/pdf/text.pdf>.

**OECD.** 2013. *Revenue Statistics 2013*. Organization for Economic Cooperation and Development, Paris.  
[http://www.oecd-ilibrary.org/taxation/revenue-statistics-2013\\_rev\\_stats-2013-en-fr](http://www.oecd-ilibrary.org/taxation/revenue-statistics-2013_rev_stats-2013-en-fr).

**In case of the same authors and the same year:**

If two articles have the same authors and were published in the same year, a further differentiation by a, b, ... is necessary.

Example:

**Sims, Christopher A., und Tao Zha.** 2006*a*. “Does Monetary Policy Generate Recessions?” *Macroeconomic Dynamics*, 10(02): 231–272.

**Sims, Christopher A., und Tao Zha.** 2006*b*. “Were There Regime Switches in U.S. Monetary Policy?” *American Economic Review*, 96(1): 54–81.

## 2.6 Declaration of Originality

At the end of each work, include the following statement:

” I,(Name), student registration number: xxxxx, hereby confirm that I completed the submitted work independently and without the unauthorized assistance of third parties and without the use of undisclosed and, in particular, unauthorized aids. This work has not been previously submitted in its current form or in a similar form to any other examination authorities and has not been accepted as part of an examination by any other examination authority.

Where the wording has been taken from other people’s work or ideas, this has been properly acknowledged and referenced. This also applies to drawings, sketches, diagrams and sources from the Internet.

In particular, I am aware that the use of artificial intelligence is forbidden unless its use as an aid has been expressly permitted by the examiner. This applies in particular to chatbots (especially ChatGPT) and such programs in general that can complete the tasks of the examination or parts thereof on my behalf.”

The declaration must be signed, stating the place and date.

## 3 Further remarks

For writing scientific papers, the software  $\LaTeX$  is often used. To facilitate successful writing of such a paper in  $\LaTeX$  the chair provides a  $\LaTeX$ -template in Appendix A. However, this template is more of a bonus and should not influence anyone’s choice of software.

## References

- Bemanke, Ben, und Harold James.** 1991. "The Gold Standard, Deflation, and Financial Crisis in the Great Depression: An International Comparison." In *Financial Markets and Financial Crises*. Ed. by R. Glenn Hubbard. NBER.
- Berka, M., M.B. Devereux, und C. Engel.** 2013. "Real Exchange rates and Sectoral Productivity in the Eurozone." *Mimeo*. 03. December 2013.
- Bernstein, J., und C. Romer.** 2009. "The Job Impact of the American Recovery and Reinvestment Plan", <http://www.thompson.com/images/thompson/nclb/openresources/obamaeconplanjan9.pdf>. [Online; Status 04. September 2014].
- Bussière, Matthieu, Jean Imbs, Robert Kollmann, und Romain Rancière.** 2013. "The Financial Crisis: Lessons for International Macroeconomics." *American Economic Journal: Macroeconomics*, 5(3): 75–84.
- Christiano, Lawrence J., Martin Eichenbaum, und Charles L. Evans.** 1999. "Monetary policy shocks: What have we learned and to what end?" In *Handbook of Macroeconomics*. Vol. 1, Ed. by J. B. Taylor und M. Woodford. Elsevier.
- Clarida, Richard, Jordi Gali, und Mark Gertler.** 1999. "The Science of Monetary Policy: A New Keynesian Perspective." *Journal of Economic Literature*, 37(4): 1661–1707.
- IMF.** 2014. *World Economic Outlook – Recovery Strengthens, Remains Uneven*. International Monetary Fund, Washington D.C.
- Koijen, Ralph, Tomas Philipson, und Harald Uhlig.** 2014. "Financial Health Economics." National Bureau of Economic Research, NBER Working Papers 20075.
- Ljungqvist, Lars, und Thomas J. Sargent.** 2012. *Recursive Macroeconomic Theory, Third Edition*. The MIT Press.
- Mertens, Karel, und Morten O. Ravn.** 2011. "A New Approach to the Estimation of Tax Multipliers." Society for Economic Dynamics, 2011 Meeting Papers 852.
- OECD.** 2013. *Revenue Statistics 2013*. Organization for Economic Cooperation and Development, Paris.
- Romer, David.** 2012. *Advanced Macroeconomics. The McGraw-Hill series in economics*, McGraw-Hill Education.
- Sims, Christopher A., und Tao Zha.** 2006a. "Does Monetary Policy Generate Recessions?" *Macroeconomic Dynamics*, 10(02): 231–272.

**Sims, Christopher A., und Tao Zha.** 2006. “Were There Regime Switches in U.S. Monetary Policy?” *American Economic Review*, 96(1): 54–81.

**Taylor, John.** 2014. “Causes of the Financial Crisis and the Slow Recovery: A 10- Year Perspective.” Stanford Institute for Economic Policy Research, Discussion Papers 13-026.

**Woodford, Michael.** 2011. *Interest and Prices: Foundations of a Theory of Monetary Policy*. Princeton University Press.

# A Latex template

## Warning:

This template is not suitable for all purposes and may contain errors. Use it at your own risk. Users should have already written texts in L<sup>A</sup>T<sub>E</sub>X.

## Disclaimer:

Due to user-friendliness (copy/paste), the page numbers in the appendix have been omitted in this template. This is **prohibited** in a written scientific paper!

```

%%%%%%%%%%%%%%
% Genereal settings %
%%%%%%%%%%%%%%

\documentclass[12pt, a4paper]{article}
\usepackage[ngerman]{babel}      % -> Language
\usepackage [utf8]{inputenc}
\usepackage[T1]{fontenc}
\usepackage{lmodern}      % -> Latin Modern
%\usepackage{mathptmx} % -> Times New Roman

%%%%%%%%%%%%%%
% Math packages %
%%%%%%%%%%%%%%

\usepackage{amsmath}
\usepackage{amssymb}

%%%%%%%%%%%%%%
% Document specific packages %
%%%%%%%%%%%%%%

\usepackage{geometry} % -> Layout
\usepackage{natbib} % -> Citations and references
\usepackage{hyperref} % -> Links inside the PDF
\usepackage[nottoc]{tocbibind}

\usepackage{graphicx} % -> Include graphics, etc.
\usepackage{color} % -> Colors etc.

```



```
%%%%%%%%%
```

```
\tableofcontents
```

```
\cleardoublepage
```

```
%%%%%%%%%
```

```
% List of figures and tables %
```

```
%%%%%%%%%
```

```
\listoffigures
```

```
\listoftables
```

```
\cleardoublepage
```

```
\pagenumbering{arabic}
```

```
\section{Chapter 1}
```

```
\subsection{Subchapter 1.1}
```

```
Main text . . .
```

```
%%%%%%%%%
```

```
% Example of a figure %
```

```
%%%%%%%%%
```

```
\begin{figure}
```

```
\centering % -> centers the figure
```

```
\includegraphics[width=\textwidth]{grafik1.pdf} % -> Loads figure from
```

```
% pictures folder using textwidth; Height etc. as feature is also possible
```

```
\caption{Heading}
```

```
\label{fig :1} % -> Linking within the document;
```

```
% Callable by \ref{fig :1}
```

```
\end{figure}
```

```
%%%%%%%%%
```

```
% Example of a table %
```

```
%%%%%%%%%
```

```
\begin{table}
\centering
\begin{tabular}{p{5cm} | p{5cm}}    % Table with 2 columns à 5cm
```

```
\hline
A&B \\
% -> Entry of A in cell 1 and B in cell 2 (line 1)
% & is a separator, by \\ we start a new line
```

```
\hline
C&D
\end{tabular}
```

```
\caption{Heading}
\label{tab :1}
```

```
\end{table}
```

```
%%%%%%%%%
% References %
%%%%%%%%%
```

```
\bibliographystyle{alphadin}
% -> Style of the citations and bibliography
% Caution:
% depending on the language of the Style it may have to be translated!
```

```
% \bibliographystyle{bib/aea_german}
% -> Translated style of the American Economic Association
% (used in examples)
```

```
\bibliography{references}    % -> bibtexfile with sources
```

```
%%%%%%%%%
% Appendix %
%%%%%%%%%
```

```
\appendix
```



```
\section{Appendix A}
\subsection{Appendix A.1}
...
```

```
%%%%%%%%%%
% Declaration of Originality %
%%%%%%%%%%
```

```
\section*{Declaration of Originality}
```

```
% \section{Declaration of Originality} % -> if declaration
% should be noted in the table of contents
```

I, \_\_\_\_\_ (Name), student registration number: \_\_\_\_\_, hereby confirm that I completed the submitted work independently and without the unauthorized assistance of third parties and without the use of undisclosed and, in particular, unauthorized aids. This work has not been previously submitted in its current form or in a similar form to any other examination authorities and has not been accepted as part of an examination by any other examination authority.

Where the wording has been taken from other people's work or ideas, this has been properly acknowledged and referenced. This also applies to drawings, sketches, diagrams and sources from the Internet.

In particular, I am aware that the use of artificial intelligence is forbidden unless its use as an aid has been expressly permitted by the examiner. This applies in particular to chatbots (especially ChatGPT) and such programs in general that can complete the tasks of the examination or parts thereof on my behalf.\\

```
\vspace{0.5cm}
\noindent
Nürnberg, XX.XX.XXXX \\
```

```
\indent
First name, Last name
```

```
\end{document}
```