

Guidelines for writing scientific papers and theses

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1. What is a scientific paper?

A scientific paper is a discussion of a relevant (e.g. economic policy) topic whose outward form follows certain conventions. Every scientific paper must (a) deal with a recognizable subject, (b) say things that have not been said before, (c) be of use to others, and (d) contain data that allow results to be verified and replicated (Eco 2015, p. 1-4). The nature, scope, and form of a scientific paper, however, may differ depending on the country, university, chair, or scientific journal.

1.1. The principles of good scientific work

Principles of scientific work apply regardless of the form, country, university, publication purpose and research background. They apply to all types of scientific publications, also to project/seminar, bachelor, master and doctoral theses. Scientific writing always means working methodically by (Eco 2015, p. 6):

1. identifying a special, clearly defined topic,
2. collecting material on this topic (literature, data, experiments),
3. arranging and evaluating material,
4. reviewing the topic considering the collected material,
5. putting all considerations into context,
6. writing down considerations in such a way that the reader can understand what you want to say and can refer to the same material, if needed.

Hence, the minimum criteria in terms of *content* are:

- an adequate presentation of the problem,
- a comprehensible, coherent and contradiction-free argumentation, and
- a discussion of the relevant literature.

It is important that the paper shows the author's own critical topic examination and the positions discussed. After all, a scientific paper should advance current research and show that the author has dealt with the subject. In doing so, the theory of relativity does not have to be newly discovered, but it should add a new aspect to the state of knowledge in the relevant field of research.

Therefore, the minimum criteria for a scientific paper concerning *formality* are:

- a meaningful outline,
- a correct citation and
- the complete indication of sources and auxiliary means.

For the paper to stand up to objective scrutiny, it is crucial to disclose all sources of information and to delineate which results/conclusions are derived from other authors and which originate from the author him- or herself.

1.2. Conventions

Please note that the requirements for an excellent scientific paper may vary from chair to chair and from university to university. This refers in particular to the minimum criteria in formal terms. For example, chairs may have different preferences regarding the use of footnotes, the cover page design, and the definition of line spacing or margins. If there are no specifications from the chair regarding formal layout, use the values provided in this guide as an orientation. The formal conventions are marked by (attention: convention!) and framed in blue boxes.

2. Topic selection and content structure

When selecting the title, make sure that you have an economic policy reference. Topics like "The Economy in Germany" are unclear, and the concrete economic policy reference is missing. A title such as "The Analysis of Post-War Water Management" is also imprecise. Since the paper is intended to address a general issue relevant to economic policy, for example, "The Water Industry from a Competition Policy

Perspective" would be a better title (please refer to chapter 4.1 for an orientation regarding research questions). A research question is usually more precisely defined. Therefore, it is advisable to first look for a research question and, based on this, formulate a meaningful title.

Be inspired by current events when choosing a topic, but don't take on too much. The scope and extent of the workload should be in relation to the type of paper (seminar paper vs. additional work vs. bachelor's thesis vs. master's thesis).

For seminar papers, the title is often provided by the supervisor. Nevertheless, you must first define the question to be answered in the context of a problem to the title specification. In a scientific paper it is not sufficient to combine a table of contents of text parts or essays. Instead, a "red thread" should be recognizable, guiding the argumentation from the problem definition. In general, the outline should result from the problem and not simply be taken from used literature.

Finding a topic and a research question, as well as creating an outline, are among the first steps you need to take when writing your paper. In any case, discuss your topic, your research question and your outline with your supervisor on time. For project and bachelor theses, the consultation should take place no later than four weeks after receipt of the topic, for master theses no later than two months after receipt.

Each paper usually consists of (*attention: convention!*)

1. a title page,
2. a table of contents / an outline,
3. a list of tables, a list of figures and a list of abbreviations,
4. an introduction, which
 - introduces the research question/hypothesis,
 - motivates the previous point and the superordinate topic as well as clarifies the current reference,
 - refers to the current state of research,
 - explains the aim of the paper and

- describes the course of the investigation,
5. a main part, which usually comprises several chapters or sections, for example
 - relevant literature presentation and discussion,
 - differentiation from other papers,
 - possibly a description of the data collection process,
 - explanation of the methodology used,
 - presentation and interpretation of results,
 6. a concluding part, which summarizes essential results and gives a possible outlook,
 7. a bibliography and list of sources, which carefully lists foreign text passages and sources,
 8. an appendix,
 9. a declaration of originality, which must be signed by hand.

3. Literature research

The term describes the process of finding, evaluating, and organizing sources. All sources used in the paper and only the sources used in the paper are cited in the bibliography, allowing the reader to find and verify references.

3.1. Searching for materials and finding topics

The material search is the basic framework of a scientific paper. It should give you an overview of standard models and theories, the current state of research and scientific discourses. It thus forms the starting point in formulating the research question and classifying and discussing your results. Especially at the beginning, one may still have too broad ideas regarding one's own topic. Therefore, a practical first step is to get an overview with the help of literature surveys, handbooks, or internet research. Once one has found the first relevant sources, one will come across further relevant literature references in their bibliographies. In this way, one can expand one's literature research according to the snowball principle.

Once this step has been completed, it is worthwhile to briefly consult with the supervisor to confirm that a suitable topic has been found.

On the other hand, you should consider that narrowing down the topic and defining a clear problem will help you to conduct an effective literature search. Therefore, do not spend too much time on the initial literature search. Once you have agreed on your topic and questions, you can conduct a more targeted search for materials. To do this, you have the following options, among others:

- Catalogue of Leibniz University Hannover (TIB) and interlibrary loans,
- shelf search in the TIB,
- (electronic) databases such as
 - EBSCOhost, JSTOR, Science Direct, SSRN, NBER Working Papers, IDEAS (<https://ideas.repec.org/>), EconPapers, EconBiz, EconLit
- journals:
 - Especially in the "Top 5": Econometrica, American Economic Review, Review of Economic Studies, Quarterly Journal of Economics, Journal of Political Economy
- Google Scholar

3.2. Types of sources

References are used to indicate the origin and sources of other thoughts. They enable the reader to check or trace where the original idea can be found and whether its reproduction is correct. Therefore, check the sources in every case regarding their truthfulness and availability. Do not trust a source blindly but evaluate it critically. For example, if the German Retail Association claims that retail prices are too high, this is unreliable. Since it is not an objective author, a cross-check is in order.

In general, there is a distinction between primary and secondary sources:

Primary sources, as evident from the name, are "first-hand" sources and thus original material. Such data are quantitative (e.g., statistics, surveys, experiments) or qualitative (e.g., interviews, observation,

document analysis). They are, for example, research reports by a scientist who has collected and analyzed empirical data himself or herself. Research results are published in scientific articles in journals, books, or independent reports.

Primary sources can also include documents from a company, market reports from a trade association or management consultancy, industry, company or consumer statistics, and opinion and market research surveys.

On the other hand, **secondary sources** are "second-hand" sources in that they refer to other sources or summarize other sources. They result from an author citing primary sources. An academic study that relies primarily on statements made by others is usually a secondary source.

When possible, always use the primary source and refer to secondary sources only when the primary source is inaccessible and/or the secondary source is deemed reliable. Publications in scientific journals, for example, are subject to more or less strict review guidelines and have usually been critically reviewed many times by experts.

Primary and secondary sources are usually:

- papers,
- textbooks and collections of essays,
- postdoctoral theses and dissertations,
- official publications.

Cite **internet sources** in the same way as printed literature. They are only allowed if the author is identifiable and reputable. The author does not necessarily have to be a natural person but can also be an institution (such as OECD) or a respected newspaper (such as "The Economist"). The internet is a volatile medium and internet sites are therefore only suitable as sources in scientific texts to a limited extent. Should you judge an internet source to be reputable, save the internet source to an electronic storage medium, as internet sites can change or even disappear very quickly. Try to avoid internet sources, if possible. If you do use one, be sure to include an exact URL address in your bibliography that, when entered, leads directly to the cited source without detours.

Gray literature is unpublished literature, i.e., scientific papers where corrections are still being made, if necessary. Grey literature includes so-called discussion papers ("working papers") but also manuscripts. Care should be taken to ensure that the gray literature comes from reliable and trustworthy sources. This would be, for example, a discussion paper series from a reputable institute or databases such as SSRN. Be sure to include the month and year in the source citation and, if applicable, the issue number in the series.

4. Writing

A scientific paper is well written if it addresses the right people, is structured logically, uses adequate formulations, and cites sources correctly.

4.1. Addressees

The addressee of a paper is not necessarily straightforward. Although the supervisor will read it, it should also be addressed to a knowledgeable audience (other students or scholars) and to an interested, non-expert audience. Therefore, the writing style used and the use of technical terms are oriented toward these groups.

Write the text in such a fashion that it is understandable for the addressees and explain facts and terms so that the addressees mentioned above can follow. Do not assume the same expertise from the reader that you have acquired in writing, and do not get lost in technical terms that only a few understand. On the other hand, you can expect some prior knowledge from the reader. For example, suppose you are writing a paper on the empirical evaluation of the cash-for-clunkers program. In that case, you should explain the specific methods used, such as the estimated demand model. In contrast, terms such as variance and standard deviation do not require any explanation.

4.2. Writing style and expression

A scientific paper is characterized by factual expression. Make sure that you do not write in colloquial language and avoid overly flowery or brash terms. You should also refrain from using excessive descriptions as well as irrelevant anecdotes or statements of concern. Furthermore, you should avoid value judgments. Avoid long, interlaced sentences and the use of many pronouns. You should also avoid

passive speech, excessive nominal style as well as excessive repetition. Technical terms are an exception regarding recurrence. Stick to a technical term and avoid using synonyms. Do not try to impress with a constant bombardment of foreign words.

Scientific writing differs from creative writing not only in terms of language choice, but also in terms of methodology. In a scientific paper, structure plays an essential role. The following tips will make your work easier (Lang 2010):

- First, become clear about the aim (hypothesis or question) of your paper.
- Then formulate your results and write down your central arguments.
- Do not work on the text as you read it, i.e., from the first to the last sentence, but rather work in chapters and paragraphs. The outline serves as a structuring aid for you.
- A page without a paragraph is a lost page, just as a paragraph with only one sentence is a lost paragraph. Paragraphs make the text easier to read. You should structure your paragraphs so that the first sentence of a paragraph summarizes the entire section. Doing so allows the reader to quickly get an overview of the structure and content of your paper, i.e., the "red thread" is apparent. This first sentence is then supported with facts, theories and logical arguments. Individual paragraphs should flow into each other in terms of content.
- First, make a note of which arguments you want to use in which order in a chapter before you formulate them. Doing so will ensure that there is a common thread within the chapter.
- Based on Hemingway, "The first draft of anything is shit": revise your first draft regarding language and content. This is not optional but an essential part of the work process.
- Throughout the paper, there should be no heading without subsequent text. For example, if you open Chapter 3 with the heading "3. Research Methodology," do not proceed directly to the subchapter "3.1. Statistical Model," but first provide an overview of the structure of the chapter.

4.3. Other special features

In the following two subchapters, you will find a brief overview of how to deal with abbreviations and footnotes. Experience has shown that these are popular error sources, so they are highlighted separately here.

4.3.1. Abbreviations

Write out abbreviations that are not generally known before using them for the first time, and then put the abbreviation in parentheses after it (e.g., subscriber line (SL) or German Institute for Economic Research (DIW)). You can then use these abbreviations in the text without explaining them again. All abbreviations introduced by yourself are to be included in the list of acronyms. You do not need to explicitly introduce standard abbreviations such as "etc.", "e.g.", or "i.e."

4.3.2. English loanwords (when writing in German)

Use German terms as much as possible. Write "airline" and "network effect" instead of "Fluggesellschaft" and "Netzwerkeffekt". English loanwords should only be used (a) when referring to proper nouns (e.g. Federal Trade Commission or The Economist) or (b) when there is no suitable German equivalent (e.g. for Roaming or Lock-in) and the use of German terms would be confusing.

4.3.3. Footnotes

Footnotes can contain annotations, additional information, explanations, cross-references, further references, and comments. However, you should only outsource such information to footnotes if it is only relevant to a small part of your readership and would interrupt the flow of reading. Try to keep the number of footnotes to the necessary minimum or avoid them altogether.

4.4. Citation in text

You will have to refer to the work of other authors. In doing so, you must cite the source of every foreign train of thought that you reproduce. In this way, you enable the reader to separate foreign from newly acquired knowledge and to check the correct reproduction of the foreign knowledge.

The citation format in this guide is based on the guidelines of the journal "Perspektiven der Wirtschaftspolitik" for German-language papers and on those of the journal "German Economic Review" for English-language papers.

4.4.1. Direct quotation

If you quote a source directly, you must enclose the text passage in quotation marks and reproduce it exactly as it appears in the text. At the end of the word-by-word quotation, cite the source. Only use direct quotes if you need a literal reproduction. The use of direct quotes should remain an exception. If you do quote directly, you should avoid longer word-by-word quotations.

"If you do decide to use a longer citation, indent it and format it with single line spacing and/or slightly smaller font size (author, year, page, number)."

If parts of the original are omitted within a literal quotation, then this must be marked with [...]. Similarly, you must mark all changes in the reference in square brackets. If you directly quote a text passage that contains an error, you must mark the error with [sic] (Latin abbreviation for sic erat scriptum, engl. "so it was written"). In this way, the reader recognizes that the error did not occur during citation.

4.4.2. Indirect quotation

Whenever you refer to other people's thought processes, findings or statements without adopting these statements literally, this is an indirect quotation. This must be indicated by a reference.

4.4.3. Translations and AI usage

Not only external literature sources should be cited if they are adopted or translated into German, but also the use of computer-generated texts, e.g. by ChatGPT. However, since your work must represent a significant written contribution, we strongly advise against having longer texts translated and/or computer-generated. Copying AI-generated text without citing and verifying the accuracy of the original source(s) is considered plagiarism (= academic misconduct).

Generative AI may be used for the following purposes:

- Literature research (please note, however, that AI does not replace your own search for literature in specialist databases)
- Summarizing texts as a basis for literature research (please note copyright laws, i.e., you may not upload third-party texts)

- Collecting and structuring ideas
- Support in developing arguments (e.g., developing an outline)
- Correcting and improving the language of texts
- Translating texts
- Support in processing literature (e.g., creating a bibliography)
- Support in the creation and validation of program codes for reproducible data analysis in compliance with data protection regulations
- Development of illustrations, images, and tables
- Support in the creation of presentation slides (especially design)

You may not use AI for the following purposes:

- To adopt AI-generated text without citing and verifying the accuracy of the original source(s); this is considered plagiarism and constitutes scientific misconduct.
- Data generation (constitutes a serious attempt at deception)
- Primary data analysis with AI

Attention: convention!

Citation method

For sources, especially in English-language economic literature, it is customary to cite directly in the text and not in footnotes. The source should be cited in the form

(last name, year, page number).

Use the abbreviation "f." when referring to another immediately following page. If there are several immediately following pages, use the exact page span (e.g., pp. 130-133).

The source citation should always be in a place where it is immediately apparent to which content the source refers. If more than one sentence refers to a source, cite the source in the first sentence. The following is an example of multiple sources in one sentence.

Example: Horizontal merges can have both positive and negative effects on the bargaining power of the firms involved (Inderst and Wey, 2003, p.2 f.), although some studies reach different conclusions under more stringent assumptions (e.g., de Fontenay and Gans, 2005, p.545).

Multiple authors

When citing two authors, the last names are joined with an "and". If there are three or more authors, only the name of the first author is mentioned and the extension "et al." (lat. "et alia", meaning "and others") is added.

Attention: In the bibliography, however, you have to specify all authors.

(last name and last name, year, page) or (last name et al., year, page)

Use of author names in continuous text

If you mention the authors' names in the running text, refrain from mentioning the authors' names inside the parentheses. As a general rule, there should never be a name without a date and a page reference.

Federal Cartel Office (2013, p.145)

Note: *Articles in journals do not use page numbers for indirect citations, but you should still do so in your thesis.*

Multiple articles per year

If you cite two or more sources from the same year by one author, you must identify the different sources in the running text and the bibliography as well, starting with a trailing, lowercase letter.

(de Fontenay and Gans, 2005a, p. 1 f.) and (de Fontenay and Gans, 2005b, p. 1 f.)

Authors with the same last name

If you cite different authors with the same last name, you must indicate this by adding the first letter of the first name.

(C. Wey and W. Wey, 2000, p. 128)

Citing entire works

When referring to a work as a whole, omit the page number when citing the source.

(Federal Cartel Office, 2013)

Citing legal texts

In the case of legal texts or texts of a similar kind, a distinction can be made between legal texts, judgments and decisions, expert opinions and decisions.

Paragraphs are cited as follows:

§/article digit section digit sentence digit law (shortened)

Examples:

§ 9 section 1 sentence 1 EStG, §§ 17 EStG und 7 AO),

§§ 17 EStG or 23 EStG, §§17-23 EStG

Cite *decisions and judgments* in footnotes because of their length.

Court (abbreviated.), Type (Judgement or rule) date published – File Number, Place of Discovery,
Page/Margin number

Note: *Publication of non-German courts may be cited according to the customary practices of the country.*

Examples:

BFH, decision dated 28.11.1980 – VI R 193/77, BStB1. 1981 II, p. 368.

VerfGH Berlin, rule published 30.10.2003 – Fn. 125/02, pp. 1-3.

Expert opinions and decisions are cited like monographs.

In legal texts, a so-called margin number is often provided. A margin number is a consecutive number that you will usually find in the left margin. If the source comes with margin numbers, you should use these instead of the page number.

4.5. Bibliography

In the bibliography, you list the literature cited in your paper completely. This means that you do not list all works that you know or that exist, but only what you have cited in the running text!

Please note: Citavi's campus license is expiring, so programs such as Mendeley or Zotero will remain available for literature management.

Attention: convention!

The bibliography is placed after the end of the text and before any appendices. All sources are to be listed alphabetically by the author's last name. A subdivision into monographs, journal articles, contributions to anthologies, and other types of sources is not to be made. If more than one publication by an author is listed, the oldest is listed first. The more recent publications follow chronologically (e.g., first Haucap (2005) then Haucap (2010)). If you cite several authors from one year, mark this by lowercase letters after the year. If the author is unknown, the paper will appear as "n.a." (abbreviation for no author/not available). Each title is given with complete bibliographic data. The italicized part indicates what to look for first in databases. There are different opinions on whether the initial letter of nouns should be capitalized for headings in English papers. Therefore, for English headings, care should be taken to ensure that capitalization is consistent in the bibliography.

Please **always specify your sources' DOI (Digital Object Identifier) as clickable URL**. If a source has no DOI, please provide a clickable URL that directly links to the document. When you are using books that are not available online, you are allowed to specify the ISBN number instead. We will check at least 10% of your bibliography thoroughly. If there is one or more nonexistent sources in the bibliography, we will grade the thesis with 5,0 (fail).

Journal article	<p>name, first name (shortened to the first letter) (year), title of paper, <i>name of journal (in italics!)</i>, volume number (vol.)(number), pages, DOI</p> <p>Normann, H.-T. (2009), Vertical integration, raising rivals' costs and upstream collusion, <i>European Economic Review</i>, 53(4), pp. 461–80, https://doi.org/10.1016/j.euroecorev.2008.09.003</p>
Discussion paper	<p>name, first name (shortened to the first letter) (year), title of paper, <i>discussion paper No. (in italics!)</i>, DOI</p> <p>Klein, G. (2010), Cartel destabilization and leniency programs - empirical evidence, <i>ZEW Discussion Paper No. 10-107</i>, https://dx.doi.org/10.2139/ssrn.1854426</p>
Monography	<p>name, first name (shortened to the first letter) (year), <i>title of the book (in italics!)</i>, place, publisher, DOI</p> <p>Breyer, F., P. Zweifel and M. Kifmann (2013), <i>Gesundheitsökonomik</i>, Berlin, Heidelberg, Springer, https://doi.org/10.1007/978-3-642-30894-9</p>
Contribution in anthology	<p>name, first name (shortened to the first letter) (year), title of paper, name of the editor (eds.), <i>title of the book (in italics!)</i> (pages), place, publisher, DOI</p> <p>Sickmüller, B. and C. Lietz (2007), Methoden der Nutzenbewertung von Arzneimitteln national und im internationalen Vergleich, in Ulrich, V., W. Ried, C. Igel and W. Lange (eds.), <i>Effizienz, Qualität und Nachhaltigkeit im Gesundheitswesen: Theorie und Politik öffentlichen Handelns, insbesondere in der Krankenversicherung - Festschrift zum 65. Geburtstag von Eberhard Wille</i> (pp. 579–592), Baden-Baden, Nomos Verlag. https://doi.org/10.5771/9783845202648</p>
Internet source	<p>name, first name (shortened to the first letter) (year), title. Available online at: exact URL-address (http://www.adresslinks.de/genauerpfad) [date of retrieval]</p> <p>World Trade Organization (2018), Trade statistics and outlook: Strong trade growth in 2018 rests on policy choices. Available online via: https://www.wto.org/english/news_e/pres18_e/pr820_e.pdf [17.05.2018].</p>
Newspaper article (printed)	<p>name, first name (shortened to the first letter) (year), title. <i>newspaper name</i>, published DD.MM.YYYY</p> <p>Musterfrau, M. (2018), Krisenstimmung in der deutschen Wirtschaft. <i>Musterzeitung</i>, published 30.11.2018.</p>

Newspaper article (online) name, first name (shortened to the first letter) (year), title. Available online at: exact URL-adress (<http://www.adresslinks.de/genauerpfad>) [date of retrieval]

Muckelberg, L. (2019), Geheimdienste widersprechen Trump. Available online at: <https://www.faz.net/aktuell/politik/ausland/gefahren-fuer-amerika-geheimdienste-widersprechen-trump-16015734.html> [30.01.2019]

Citation of legal texts

Paragraphs, judgments and decisions are not included in the bibliography and decisions and opinions are cited as if they were monographs.

5. External appearance

In principle, the following specifications apply to all work at the IHE. However, deviating specifications resulting from the examination regulations or requested by your supervisor have priority.

5.1. Title page

Attention: convention!

The title page of a seminar or term paper should contain the following information (see Stud.IP for an example):

- title of the paper,
- name of the author,
- field of study and number of semesters,
- prepared for (module, course, supervisor, chair, university),
- specification of the semester (winter term/summer term),
- date of submission.

5.2. Scope and form

Attention: convention!

The length of a seminar paper should be 12 to 14 pages, that of a bachelor's thesis between 25 and 40 pages and that of a master's thesis 50 to 70 pages. The length refers to the text part of the paper, including the figures and tables contained in the text. The scope does not include the title page, the indexes and the appendix. However, you should not slavishly adhere to this guideline, because an essential part of the work process is to find out how many pages are sufficient. Therefore, do not squeeze your work into a corset by using formatting tricks.

Select a standard font, such as Times New Roman size 12pt or Arial 11pt, with 1.5 times line spacing. The font size in footnotes should be much smaller than the font size in the text (difference about 2pt), and the line spacing should be single. Format your paragraphs as block sentences. Choose the following spacing for formatting the margins:

- left margin: 4 cm (for theses), 3cm for seminar papers,
- right margin: 2 cm,
- top margin: 2,5 cm,
- lower margin: 2 cm.

The headings of your paper will be organized using only Arabic numerals (i.e., 1, 2, 2.1, 2.2, 3, etc.). Your paper should be numbered according to the following scheme: The title page does not receive a page number. The pages of the indexes (table of contents, list of abbreviations, list of figures, and list of tables) are numbered in Roman numerals, starting with the table of contents on page II.

With the beginning of the main text, the numbering starts again at 1. The text part, the bibliography and the appendix are to be numbered consecutively in Arabic numerals.

The citation style in the bibliography should be either APA or Harvard style. It is particularly important to decide on one style so that citations are consistent.

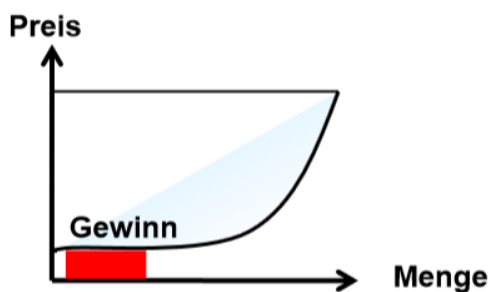
5.3. Figures, tables and formulae

Attention: convention!

Figures, tables, formulae, and footnotes form independent groups, that are independently and consecutively numbered using Arabic numerals within each group. In other words, you must label the first table in the text "Tab. 1" and the first figure "Fig. 1".

Abbreviate each figure as "Fig." and each table as "Tab." followed by its number and a short descriptive **heading**. If you refer to a table or figure in your paper, you must cite its number in the text. Make sure that each figure or table is self-explanatory as much as possible. For example, in the case of a function graph, you would need to **label** the coordinate axes, curves, and points. In addition, you must cite the source under the table or figure. At this point, you can also provide essential **explanations** in a short text. You should design all tables and figures in such a fashion that the reader can understand the table or figure only by reading the the heading, the label and, if applicable, further explanations attached directly to the figure, but without reading the continuous text.

Fig. 1: figure title



Here is space for important explanations. Source: Author (year, page)

If you have created a figure or table yourself, you must clearly indicate this. You can do this by noting "Own presentation" or "Own creation". If you have used data from another source for your creation, this must be marked. For example, this could be done by "Own presentation; source of data: Federal Statistical Office (2013)".

Furthermore, tables should be inserted in such a way that they do not extend over several pages. Figures and tables that help to make a central statement easier to understand should be included in the body

text at an appropriate place. In the text, reference must always be made to the tables and figures used.

If figures or tables are not of central importance, they are listed in the appendix.

Formulas should not be included in a running sentence but should stand alone and centrally in the next line. All formulae that you refer to should be numbered in consecutive order. Numbering is done in round brackets and is placed to the right of the formula.

$$(x + a)^n = \sum_{k=0}^n \binom{n}{k} x^k a^{n-k} \quad (1)$$

Intermediate steps in calculations do not need to be numbered. If a calculation or proof disturbs the flow of reading, e.g. because it is very long or complex, it is to be placed in the appendix, and you only mention the central findings in the text. When using Microsoft Word or equivalent programmes, make sure that formulas are inserted using the formula function. This also applies to variables inserted in the continuous text.

6. Editing

For a text to be "good," continuous and repeated revision is critical. This step is called editing. Plan enough time for this. As a rule of thumb, you can allocate 1/3 of your total working time for this.

In the first step, you check your paper for consistency in content and for a clearly recognizable "red thread". Read the introduction and check whether the research question or working hypothesis has been clearly stated and its relevance motivated. Make sure that all content in the main section contributes to answering the research question or investigating the working hypothesis. If you feel a passage is no longer relevant, cross it out. In the conclusion, all questions from the introduction should be revisited and answered.

Next, revise your text linguistically so that it meets the criteria of a scientific language style. Be sure to use an automatic spell checker, but don't blindly rely on it.

Finally, you should check the formal requirements for the paper. The main question here is whether you have complied with all the formatting requirements and whether there is a consistent appearance.

Before submitting your paper, you should have it proofread by others. When planning your time, keep in mind that experience shows that this takes at least a week.

Once you have finished editing, save the file in PDF format (not as a Word document!) and submit it by the deadline according to the requirements resulting either from the examination regulations or from arrangements with your supervisor. In the printed version, make sure that you have signed the declaration of originality by hand.

Insider tip: Print out the checklist from Appendix A and check off the bullet points.

7. Literature references (German / English)

Key literature references (German)

Eco, U. (2020), *Wie man eine wissenschaftliche Abschlussarbeit schreibt: Doktor-, Diplom- und Masterarbeit in den Geistes- und Sozialwissenschaften / Ins Deutsche übersetzt von Walter Schick. 14 unveränderte Auflage der deutschen Ausgabe / Umberto Eco*, Heidelberg, C.F. Müller, <https://elibrary.utb.de/doi/epdf/10.36198/9783838553771>

Further literature references (German)

Hamermesh, D. (1992), The Young Economist's Guide to Professional Etiquette, *Journal of Economic Perspectives* 6(1), S. 169–79, <https://dx.doi.org/10.1257/jep.6.1.169>

Krämer, W. (2015), *So lügt man mit Statistik*, 2 Auflage, München, Campus Verlag.

Krämer, W. (2015), *Statistik verstehen: Eine Gebrauchsanweisung*, München, Piper.

Oehlrich, M. (2019) , *Wissenschaftliches Arbeiten und Schreiben - Schritt für Schritt zur Bachelor- und Master-Thesis in den Wirtschaftswissenschaften*, 2. Auflage, Berlin, , Springer Gabler, <https://doi.org/10.1007/978-3-662-58204-6>

Tuhls, G. (2019), *Wissenschaftlich Arbeiten schreiben mit Microsoft Word*, 1. Auflage, Köln, Mitp Verlag.

Key literature references (English)

Eco, U., *How to write a Thesis*" (2015, Original 1977), Cambridge, Mass, MIT Press.

Further literature references (English)

Alley, M. (2019), *The Craft of Scientific Writing*, 4th ed, New York, Springer Nature,
<https://doi.org/10.1007/978-1-4419-8288-9>

Mankiw, N. (1996), My Rules of Thumb, *The American Economist* 40(1), S. 14–19,
<https://scholar.harvard.edu/mankiw/publications/my-rules-thumb>

McCloskey, D. (2019), *Economical Writing*, 3rd Edition, Chicago, The University of Chicago Press.

Thomson, W. (2011), *A guide for the young economist*, 2nd Edition, Cambridge, Mass., MIT Press,
<https://www.jstor.org/stable/j.ctt5hhbjj>

Appendix A: Checklist

Try to answer the following questions before submission:

About external form and layout:

- Are all directories up to date and complete?
- Have automatic directories been updated again?
- Are all sources correctly cited and listed in the bibliography?
- Is the bibliography sorted alphabetically by last name?
- Are all sources cited with a clickable DOI, URL, or if need be an ISBN?
- Have all sources from the bibliography also been cited in your paper?
- Have different formats (e.g., font size, italics, spacing) been used consistently?
- Is the text formatted as justified print?

About content and structure

- Is the topic, background, and aims of the work project clearly formulated?
- Is the research question explained in the introduction and answered in the concluding chapter?
- Is the red thread of the argumentation recognizable?
- Are individual chapters coordinated and logically structured (no repetitions, no inconsistencies in content)?
- Are the references clear and comprehensible for the reader?
- Are there transitions between the text sections?
- Are arguments or main statements formulated in a comprehensible manner, clearly illustrated with examples and supported by sources?

Language and style:

- Are the sentences concise and do not stretch over several lines?
- Have unnecessary foreign words been avoided?
- Is the use of language active?

- Is the text factual and detached?
- Are the expressions used precisely?
- Is the language appropriate for the target audience?
- Are grammar, spelling, and punctuation correct?

Prior to submission:

- Is the declaration of originality signed?
- Is the paper saved in PDF format?
- Specify with your individual supervisor whether they prefer a purely digital submission, or whether they additionally need a printed version

Appendix B: Example of an originality declaration

Declaration of originality

I, first name last name, hereby declare that I have written this paper with the title

"Title of paper "

independently and without the use of other than the indicated aids. I affirm that I have not used any sources other than those indicated and that all passages taken literally or in spirit from published and unpublished writings are identified as such. This also applies to content created using AI-based systems. All content has been independently reviewed for scientific plausibility. Furthermore, I assure that the work has not yet been submitted in the same or similar form in the context of another examination.

I am aware that in the event of deception, the paper will be graded as **"failed"**.

Place, Date

Signature