

– Department of Economic Policy –

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Writing of scientific papers

1. General Remarks

The following hints clarify the principles that have to be obeyed when writing a scientific paper, especially in respect of formality.

Scientific papers are generally being written in 1½ line spacing. Each sheet of paper is being written-on one-sided. The standard settings of word can be used as side margins: 2,5cm on the left and on the right, 2cm on top and bottom. The size of normally positioned characters may not deviate from 12-13pt in the text body and from 9-10pt in the footnotes.

Formally, a paper is separated into several parts which are to be arranged in a certain sequence: Front page (with the topic of the paper, the name of the event, the name, address and semester number of the author), table of contents, table of charts and graphics (this part is only necessary if a large number of charts and graphics are being used in the paper), table of abbreviations, text body, appendixes, table of references. All pages - except the front page - are being numbered with Arabic digits continuously.

2. Table of Contents

The table of contents contains the titles and names of the respective sections. The table of contents should demonstrate in which way the author understood the topic, processed the topic, and presented the topic with a logical structure and by a recognizable, topic-related “red string”. A thorough and in-itself concluded train of thought requires an arrangement with by- and sub-bullets in a logically unobjectionable form, i.e. bullets on an equal level have to be attributed with an equal textual and logical content. A chapter 1 has to be follow by a chapter 2, a section 1.1. by a section 1.2. etc.

Asides from showing the structure of the paper, a table of contents obviously has to present the content of the paper. The heading “Table of Contents” or “Contents” is therefore being followed by the headings of the respective chapters and sections, with a page reference on the far right, and by an indication to the appendixes and to the table of references. The quoted bullets are repeated in the titles of the text body in full wording.

3. Preface and Conclusions

The paper has to be started with a preface. The preface should address the central problem (including a demarcation of the topic) and the objective of the paper, key definitions and the methodical structure.

The last section of the paper is reserved for the conclusions. It should contain a summary of the results, a short representation of the theses, or a view on unsolved problems.

4. Abbreviations and Symbols

Abbreviations should be used as economically as possible in the current text. Just few exceptions like "etc." or "i.e." as well as abbreviations for currencies are usually accepted. Besides, the usage of abbreviations for institutions (EC, GATT) and laws (BGB, HGB) has become commonplace. They should, however, be explained in an alphabetically sorted table of abbreviations that precedes the actual text body if more than three abbreviations are being used. All symbols used are to be explained in the current text as well as in an alphabetically sorted, the text body preceding table of symbols.

5. Representations of Mathematical Formulas

Formulas are to be integrated into the current text if they don't require to much vertical space, for example $C^j(G_S, \bar{\omega}) = \Pi_A^j$. Otherwise, they are being separated from the text in extra lines:

$$EU^i(G_S) = \int_0^{\omega(G_S)} \Phi^{i(i)}(G_S, v)h(v)dv + \int_{\omega(G_S)}^1 \Phi^{i(j)}(G_S, v)h(v)dv$$

Formulas that are being used widely in the text are assigned with current numbers:

$$EU^i(G_S) = \int_0^{\omega(G_S)} \Phi^{i(i)}(G_S, v)h(v)dv + \int_{\omega(G_S)}^1 \Phi^{i(j)}(G_S, v)h(v)dv. \quad (12)$$

A detailed table of formulas serving as proof or as derivation of a central textual expression has to be located in the appendix of the text.

6. Footnotes

It is a fundamental law of scientific working to inform with unambiguous reference over the origin of all facts and thoughts not developed independently, provided they don't represent scientific general property. In case of doubt, the author should refer to a quotation. In order to maintain the smooth flow of the reading, these documentations as well as personal and factual comments of the author not belonging directly to the topic are being located in form of footnotes at the end of the respective page. A footnote referring to a word or a group of words is being marked with a high-ranking digit directly behind the (last) word, a footnote referring to a sentence or part of a sentence with a high-ranking digit directly behind the punctuation mark concluding the sentence. Footnotes referring to parts of sentences quoted literally are being marked with high-ranking digits directly behind the concluding quotation marks. The footnotes are being written in single line spacing and are separated from each other through 1½ line spacing.

7. Quoting

1. Literal Quotes

Literally acquired quotations are started and ended by quotation marks. They must be returned true to the original, possible deviations have to be clearly marked. Omissions are shown by consecutive points: by two points if a word, by three points if more than a word is being omitted. Own additions of the author within a quoted text, for example to complete a sentence with added verbs, are inserted by angular brackets into the quotation. Italics or other accentuations omitted or added have to be identified in the footnote. Literal quotations in English language are adopted originally. A quotation should generally include no more than two to three sentences. Longer quotations that seem to be indispensable are to be indented in the text. In most cases, however, it is preferable to return longer quotations in own words, of course including reference. Be thrifty with literal quotations!

Generally, only the original text is being quoted. In case the original reference is not accessible, the original reference is being mentioned first, followed by the supplement "quoted by" and then the actual reference.

2. Charts and Graphics

Charts and graphics used in the text are (separately) numbered continuously. They should contain an exact statement of their content in the title. Columns and rows as well as pivots in a coordinate system have to be exactly designated. Comments already existing or added by the author are to be placed directly under the charts or graphics. In contrast to the footnotes, these remarks are being identified by current small letters. References concerning tables and graphics are being shown behind the word "sources:" directly under the charts or graphics.

3. References to Quotes

Publications used in the text body of the paper or in the footnotes are being quoted with the name of the author, the publication date and the page number if necessary, the complete information (title of the publication, publication place, publication date etc.) is being provided in the table of references.

For example:

Schneider (1963, P. 4) uses the following definition: "...."

Especially transport and trade are such production processes (see Schneider, 1963, P. 4).

As several publications of the same author are being used, they are identified by small letters a, b etc. and by the publication date, i.e.:

Schneider (1963a), Schneider (1963b), Schneider (1974).

8. Table of References

The following information has to be provided in the (literature) references:

1. Monographs

Last name, First name[s] abbreviated, [Last name, First name[s] abbreviated] [and First name[s] abbreviated, Last name] (with more than three authors, just the first author may be stated, followed up by "a.o." (among others)), year of publication, title, publication place[s] if indicated. With more than three publication places, just the first publication place is being stated, followed up by "et al."

Lehment, H., 1980, Intervention on Exchange Markets under Floating Rates, the Policy of Managed Floating, Tübingen.

2. Articles in Collective Works

Last name, First name[s] abbreviated, [Last name, First name[s] abbreviated] [and First name[s] abbreviated, Last name], year of publication, title of the article, in: First name[s] abbreviated, last name[s] of the editor[s], (ed.), title of the collective work, publication place[s], page numbers of the article within the collective work.

Börsch-Supan, A., 1994, Migration, Social Security Systems, and Public Finance, in: H. Siebert (ed.), Migration: A Challenge for Europe, Tübingen, 119 - 142.

3. Articles in Journals

Last name, First name[s] abbreviated, [Last name, First name[s] abbreviated] [and First name[s] abbreviated, Last name], year of publication, title of the article, in: name of the journal, volume, page numbers of the article within the journal.

Kotlikoff, L.J. and L. Summers, 1981, Dividing Capital Accumulation into its Life-cycle and Transfer Components, in: *Journal of Political Economy*, 89, 905 - 926.

4. Statistical Handbooks, Yearbooks

Editor (ed.), year of publication, title of the handbook, volume, publication place[s], page numbers, [number of the chart].

Federal Statistics Agency (ed.), 1995, *Statistical Yearbook for the Federal Republic of Germany*, Stuttgart, 47, Chart 3.2.

5. Articles in Dictionaries, Encyclopedias

Last name, First name[s] abbreviated, [Last name, First name[s] abbreviated] [and First name[s] abbreviated, Last name], year of publication, "article" title of the article, in: name of the dictionary, volume, publication place[s], page numbers or column numbers of the article within the dictionary.

Heiler, S., 1982, Time Series Analysis, in: *Handbook of Economics*, Vol. 9, Stuttgart et al., 582 – 599.

Generally, all sources quoted by the author and just these sources are to be stated in the (literature) references! Books, essays and articles written by authors don't have to be separated in the references and are presented in alphabetical order.

Source of the hints above:

<http://www.vwl.uni-freiburg.de/fakultaet/wipo/wissarb.htm>.

Additional information:

Thomson, W.: *The Young Person's Guide to Writing Economic Theory*, in: *Journal of Economic Literature* 37 (1999), 157 – 183.

Thomson, W.: *A Guide for the Young Economist*, Cambridge/Mass.-London 2001.

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Presentations

1. Transformation of the Paper into a Spoken Text

- Speak by notes.
- Don't learn by heart.
- Don't pick off the text; Exception: quotations, numbers, data.

2. Preparation of a Presentation

Clarify the social role of speaking and the attitude associated with it: In which social function/position and in which situation-related framework has to be spoken? What is expected?

"Staging" of the room concerning usage of the room, seat order, hearing circumstances; Clarify the possibility of eye contact.

Overheads: Make sure that the text can easily be read in the rearmost row. (Recommendation: Letter size at least 20pt, no more than ten lines per overhead).

3. Introduction of the Presentation

Include the prior knowledge and the expectations under consideration of the audiences' reception capacity.

Don't begin until everybody listens to you.

Name the title and the topic of what you speak about.

Choose a situation-related prologue, but don't be too long-winded:

- Connect to previous information, refer to current events if applicable.
 - Name the objective and the motto of the lecture, if applicable.
 - Delimit the topic: About what it is and about what it is not.
- Provide a short overview (table of contents, duration etc.); possibly anticipate the main result and build up tension regarding analysis and explanation.

4. During the Presentation

Separate information from personal points of view or valuations.

Emphasize transitions; Name sections and levels that emerge from the table of contents or from interruptions.

Refer to introductory remarks and already established inter-results or update them respectively.

Be open for questions and reactions from the audience.

Maintain contact to the listeners

- by eye contact,
- by posture,
- by open, further-pointing questions (no questions of the type "did you understand that?" however).

Don't distribute, show and explain overheads, panel paintings and papers simultaneously.

Explain overheads, for example the designation of axes. Don't flail about with your pencil wildly; instead, put it down at the correct place.

Leave the audience enough time to pick up what you said or to copy your overheads if applicable.

Don't show your back to the audience; when writing to the blackboard, frequently turn yourself to the audience.

Name your steps of thought; don't presuppose tacitly what the audience can only suspect.

Introduce technical terms; make sure these are known by the audience.

Speak simply; don't use complex sentence structures, but as few as possible subordinate clauses. (Recommendation: No more than 12-15 syllables per sentence).

If possible, justify claims and questions first.

Don't start all sentences with „and“.

5. Manner of Speaking

Develop thoughts continuously.

Keep the tension of speech open or build it up.

Consciously introduce pauses, so the audience can follow your thoughts.

Vary your melody of speech:

- Voice signals: concluding, further-pointing, tension-rising intonation.
- Change volume of speech; in order to select the basic volume, adjust yourself by thought at the rearmost row.
- Emphasize sense-fundamental concepts and important inter-results; perhaps repeat important sentences.
- Breathe quietly.

Mediate good mood and interest in the matter.

6. Conclusion of the Presentation

Connect to the topic mentioned at the beginning: Resume the questions or the motto, respectively.

Summarize most important results:

- Use head concepts; Embed your results into a bigger context.
- Don't retell.
- If possible, choose a structure different from that one of the presentation.

For subsequent discussion: install a thematic transition and name the objective of the discussion.

Source of the hints above:

<http://www.vwl.uni-freiburg.de/fakultaet/wipo/wissarb.htm>.

Additional information:

Thomson, W.: A Guide for the Young Economist, Cambridge/Mass.-London 2001.