Chair of Business Administration,
especially Financial Services

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Guidelines for Academic Research

This document gives students an introductory overview of the requirements for academic research in terms of form and content. In the following, the favored characteristics of the papers to be submitted to the Chair of Business Administration, especially Financial Services are presented. For further references please refer to the extensive range of literature on this topic in the library of the University. This guideline does not claim to be complete. Should individual, formal questions remain unclarified by this document, the author is required to independently develop a consistent and comprehensible procedure.

Examination rules and regulations can be found in the respective examination regulations.

Table of Contents

1 Introduction

Project works as well as bachelor and master theses are independent scientific works. This implies independence in dealing with the chosen research question. The relevance of the work must be emphasized, and the topic must be treated appropriately using relevant literature and methods. Introductory literature can be provided by the supervisor, whereas further literature research is an obligatory part of the work, which is included in the evaluation. In the beginning, a search via Google Scholar using relevant tags is helpful. Literature management programs, such as Endnote or Citavi, also offer implemented search functions that enable a more thorough and extensive search. Potential sources of literature are, besides the library of the University, online databases such as ScienceDirect or JSTOR, which provide a large number of economic and scientific articles. The bibliography of the various sources also provides a reference for further research.

The corresponding content can be accessed via the VPN tunnel of the Heinrich Heine University Düsseldorf. It also provides access to the Thomson Reuters Eikon database of the library of the University, which can be used to obtain financial market data for empirical works.

A clear separation of one's own thoughts from those of others and a clean and consistent style of citation is indispensable. Non-compliance with formalities and incorrect spelling and grammar will result in a deduction of the grade. If a foreign thought is not marked as such, the work has to be evaluated as "**insufficient**"! The relevant "Rules on the Principles for Safeguarding Good Scientific Practice" of HHU apply in their currently valid version (https://www.wiwi.hhu.de/promotion/downloads/alle-formulare-zur-promotion.html).

2 Formal Requirements

When writing a scientific paper, it is mandatory to comply with the following scope:

- **Project work**
  - B.Sc. BWL/VWL/FVM/WiC 9-12 pages
  - B.Sc. PPE 9-12 pages
  - M.Sc. BWL/VWL/WiC 12-15 pages
- **Bachelor thesis**
  - B.Sc. BWL/VWL 25-40 pages
  - B.Sc. FVM/WiC ≤ 40 pages
  - B.Sc. PPE 30-50 pages
- **Master thesis**
  - M.Sc. BWL 40-60 pages
  - M.Sc. VWL 40-60 pages
  - M.Sc. WiC ≤ 60 pages
  - M.Sc. Economics 50-80 pages

In the M.Sc. Economics program, the thesis must be written in English. The page count given refers exclusively to the **text part** without the directories, whereby illustrations and tables are part of the text. Regarding the formatting, the following specifications are binding:

- Paper in DIN A4 format
- Line spacing 1.5 lines (single-line footnotes)
- Margins: left 3 cm, right 3 cm, top 2.5 cm, bottom 2.5 cm
- Font: Times New Roman, 12 pt (footnotes: 10 pt)
- Justification and hyphenation

Project works have to be submitted timely to the supervisor as Word and PDF documents. Bachelor and master theses have to be uploaded timely in PDF format on the student portal in accordance with the examination regulations. Furthermore, on request of the supervisor, up to two printed copies (binding is not required) must be handed out, which must be compulsorily based on the PDF file of the thesis submitted on the student portal. Additionally, used codes of analysis programs, such as "R" or "MATLAB", are to be provided upon request by the supervisor. It is **absolutely** necessary to make sure that the title of the thesis corresponds **exactly** to the title on the student portal! Otherwise, the examination office will assess the paper as "**insufficient**".

3 Citation

As already discussed, every foreign train of thought must be marked as such without exception. Two types of quotations can be distinguished:

- **Literal, direct quotations:** These must be placed in quotation marks in the text and require an exact letter-accurate reproduction. Errors in the source are to be accepted but can be marked as such by a "[sic]" after the error. Omissions of one word can be marked by "[..]" and several words by "[...]". For better understanding, words added are in square brackets and marked as originating from the author. Direct quotations should be used as sparingly as possible, as they reduce the flow of reading. They should only be used if not only the content but also the wording is important.
- **Analogous, indirect quotations:** These are thoughts of other authors and one put them into own words without using quotation marks. They are introduced with the abbreviation “cf.”.

The **references** are quoted in **short form**. According to this referencing, the sources are inserted directly into the continuous text. They are placed in brackets and follow directly after each quote. This includes the name of the author, the year of publication in brackets and the page number of the citation. If there are more than two authors of a source, the name of the first author shall be supplemented in the footnote with the addition "et al." for "et alii", indicating the remaining authors. If several works of one author are cited in one year, this is indicated by Latin letters after the year of publication in brackets, beginning with “a”. If thoughts from two successive pages are used for one source, the source can be closed with the abbreviation "f." for "following", where a space is left between the page number and "f.". If several pages are cited, they should be named exactly ("pp. 12-14" or "pp. 12 and 16."). In some cases, sections (sec.), articles (art.), marginal numbers (no.) or paragraphs (§) may or must be used instead of page numbers when citing sources. It should also be noted that when citing Internet sources, the URL does not appear in the brackets but only in the bibliography. In this, the information of the sources must be provided completely, as shown in chapter 4.2.8.

In the case of both literal and analogous quotations, the original sources must always be used, if they are accessible. If, in an exceptional case, a secondary source must nevertheless be used, this second-hand citation must be marked as such, e.g. by the addition "quoted after ..." (e. g. "(cf. Diamond (1984), p. 6, quoted after Hartmann-Wendels et al. (2007), pp. 111-117.)".

4 Structure of a Scientific Paper

4.1 Structure and Pagination

The parts of a scientific paper should be in this order:

Title page	without pagination
Table of contents	directories are paginated continuously **Roman**
List of abbreviations*	Roman
Symbol directory*	Roman
List of figures*	Roman
List of tables*	Roman
Text part	paginated continuously **Arabic**
Appendix*	**optionally** paginated Arabic **or** continuation of Roman pagination
Bibliography	
List of legal sources*	
Declaration on honor*	

The title page is not paginated. The pagination starts on the first page of the table of contents with Roman „II“, whereas the Arabic pagination starts on the first page of the text part. Note that the table of contents itself does not appear in the table of contents. After the text part, **either**

the Arabic pagination of the text part **or** the Roman pagination of the directories can be continued. In scientific papers main chapters of the text part and the directories should start on a new page. This is mandatory for bachelor and master theses, but not for project works.
The parts marked with “*“ are not required in every scientific paper. This will be discussed in the following subchapters.

4.2 Details of the Structure of a Scientific Paper

4.2.1 Table of Contents

The table of contents summarizes the outline of the work. The outline reflects the logical structure of the work and there must be a consistent relation to the topic and a comprehensible line of argumentation in all parts. The outline is transferred literally into the work. The depth of the outline depends primarily on the concrete research question and the scope of the investigation. The individual positions of the outline are to be marked with the page on which the section begins. The outline should be structured according to the decadal classification:

1 ...
  1.1 ...
  1.2 ...
    1.2.1 ...
    1.2.2 ...
2 ...

A positioning on the same level means an equal rank in terms of content, so that a common central problem is assumed. An additional subdivision is only to be made if at least a second point is made on the same level, as shown in the example:

1 ...
  1.1 ...
  1.2 ...

Make sure that a dot is placed between the numbers, but **not behind** them. The subitems in the table of contents are displayed indented, but formatted left-justified in the text. For reasons of reader-friendliness, it is advisable to work with hyperlinks in the table of contents. In the context of a project work four (upper) outline points **should not** be exceeded. Chapter headings should reflect the content in the best and most concise way possible.

4.2.2 List of Abbreviations

A list of abbreviations should only be created if the work contains abbreviations that are not commonly known. If several suchlike abbreviations are used, it is obligatory to create an alphabetically sorted list of abbreviations, which then also contains the abbreviations commonly known (for example “e.g.”, “etc.”). All abbreviations, except those that are commonly known, must be written out in full in the text when they first appear. The abbreviation is placed in round brackets behind the word. The separation of abbreviations across lines should be avoided. This can be prevented with “non-breaking space”. Proceed in the same way with the percentage sign "%".

Furthermore, abbreviations should not be used randomly for reasons of convenience. Whereas common abbreviations used in the academic literature, such as “CAPM” for "Capital Asset Pricing Model", are legitimate. Furthermore, it should be noted that in the case of an abbreviation at the end of a sentence, the dot of the abbreviation ends the sentence, and no double dot is necessary. It is to be refrained from the usage of abbreviations at the beginning of the sentence.

4.2.3 Symbol Directory

All symbols used in figures, tables, formulas etc. must be explained once in the text. A symbol directory is only necessary if at least one symbol is used multiple times during the work. In that case all symbols are to be listed in the symbol directory. It is advantageous to select the symbols according to the common literature. For example, it is advisable to use the variable t for a time index. The symbols are to be listed in the symbol directory with their corresponding meaning. For the sake of clarity, the symbols are arranged alphabetically and a separation of Latin and Greek letters should be made. Since symbols are often part of the work in the form of mathematical formulas, it should be noted that formulas must be numbered and included in the text. This will be illustrated in the following example.

First possibility

"Sharpe's market model postulates a linear relationship between the market index and the share of company i:

$$R_{i,t} \ = \ \alpha_i + \beta_i R_{m,t} + \varepsilon_{i,t} \qquad (1)$$

with $\quad \varepsilon_{i,t} \sim (0, \sigma_\varepsilon^2)$,

where α_i denotes the part of the return that is independent of the market index $R_{m,t}$."

Second possibility

"Sharpe's market model postulates a linear relationship between the market index and the share of company i:

$$R_{i,t} \ = \ \alpha_i + \beta_i R_{m,t} + \varepsilon_{i,t} \qquad (2)$$

with $\quad \varepsilon_{i,t} \sim (0, \sigma_\varepsilon^2)$.

Here α_i denotes the part of the return that is independent of the market index $R_{m,t}$."

Since the procedure is only illustrated, the explanation of further symbols is omitted, however this must be done in a scientific paper. In the second example, the formula completes a sentence so that it ends with a dot.

4.2.4 List of Figures

The list of figures contains the numbers of the figures, including the title, and the corresponding page number in the text. Such a directory with only two figures is obsolete. When including a figure in the text part, it is also important to note that the source is to be mentioned.

It should be noted that the quality of the original file must be sufficiently high. Self-created and high-resolution figures are preferable. Furthermore, images should be of sufficient size and relevance. This means that they are used actively for describing and explaining and not just for summarizing what has already been written. Figures in the appendix are to be referred to in the text with a referral to the appendix.

4.2.5 List of Tables

In analogy to the list of figures, the list of tables has to be created.

4.2.6 Text Part

The text can be structured more clearly by using paragraphs. Indispensable for scientific work is the use of a neutral language as well as the unbiased and differentiated discussion of different opinions. The use of an impersonal writing style is appropriate: The personal pronouns "I" and "we" are therefore **not** to be used. Furthermore, the direct addressing of the recipient should be avoided, for example: "In Tab. 7 you will find X… “. Instead, it could be worded as follows: "Tab. 7 summarizes X...". In addition, the fictitious addressees of the work should be considered when defining technical terms. These are economists who do not come from banking or comparable disciplines. In this respect, terms such as "trading book" or "maturity transformation" must be defined. Central terms that contribute to the argumentation are explained in the text. The other terms are marked with a superscript and discussed in the footnote rather than in brackets after the word. The superscript is placed directly after the word to be defined and not at the end of the sentence.

The paper must follow a stringent train of thought through its logical structure, which successively aims at the analysis and clarification of the research question. The specific depth of the outline ultimately depends on the topic and the research question and is to be determined by the author in consultation with the supervisor. As mentioned at the beginning, a project work should not be structured in more than four main outline points, because of its much smaller scope compared to a thesis.

4.2.7 Appendix

One or more appendices must be used sparingly and are reserved for the following contents:

- Extensive tables, which reduce the reading flow or contain additional information
- Larger statistics and mathematical proofs
- Detailed (case) examples
- Large figures, which reduce the reading flow
- Additional explanations to statistics or calculations

It should be noted that tables, figures, equations etc. are per se part of the text and are fully counted towards the page limit. The appendix does not count towards the page limit; therefore, it is **not** allowed to use it for outsourcing information. The text itself must contain all facts and arguments necessary to elaborate the question, i.e., it must be understandable without the knowledge of the appendix. In the text part, reference shall be made to the corresponding appendix, and the appendices shall be organized. In the context of a project work, an appendix should be omitted.

4.2.8 Bibliography

Only those sources that are actually used in the work are to be listed, i.e. those that are quoted. This includes the sources of illustrations, figures and tables. The sources used must be cited in the long citation format. Academic degrees (Prof., Dr., etc.) are generally not mentioned. In the first level, the names of the first-named author of a work are listed alphabetically:

- MacKinlay, A. Craig before Markowitz, Harry M.
- Fama, Eugene F. before Fama, Eugene F./Fisher, Lawrence/Jensen, Michael C./Roll, Richard

In the second level, the references are sorted chronologically by year of publication:

- Markowitz, Harry M. (1952) before Markowitz, Harry M. (1991)
- but: MacKinlay, A. Craig (1997) before Markowitz, Harry M. (1952)

If there are two works by one author in one year, then a letter, beginning with “a”, is added to the year in analogy to the short citation:

- Lintner, John (1965a) before Lintner, John (1965b)

The authors’ first names are listed in the bibliography, but not in the short citation method. The general order in the bibliography is independent of the type of source:

- Monograph
- Article in a Journal
- Compilation
- Working/Discussion Paper
- Internet

With regard to the form of citation, however, a distinction is made according to the type of source, which is explained below. The aim is to enable the reader to check and locate the source within an appropriate time. Attention should be paid to the point at the end of the source in the bibliography. Each source begins in a new line.

1) Monograph

- Name, first name of the author (several authors can be separated with a semicolon)
- Year of publication in brackets (if necessary with corresponding letters)
- Main title and (if available) subtitle (separated with a dot)
- Edition (if there are several editions)
- Specification of the respective volume and/or half volume (if available)
- Place of publication
- Dissertations and habilitations must be marked as such, indicating the university and the year in which they were submitted

Examples

- Börner, Christoph J. (2000): Strategisches Bankmanagement, München.
- Hartmann-Wendels, Thomas; Pfingsten, Andreas; Weber, Martin (2019): Bankbetriebslehre, 7th Edition, Berlin.
- Heiden, Stefan (2002): Kursreaktionen auf Dividendenankündigungen. Ereignisstudie am deutschen Kapitalmarkt, also: Dissertation Johann Wolfgang Goethe – Universität Frankfurt am Main (2000), Wiesbaden.
- Mondello, Enzo (2017): Finance. Theorie und Anwendungsbeispiele, 1st Edition, Wiesbaden.

The mention of the publisher's name or the ISBN as well as the page numbers is not needed.

2) Journal:

- Name, first name of the author (several authors can be separated with a semicolon)
- Year of publication in brackets (if necessary with corresponding letters)
- Main title and (if available) subtitle (separated with a dot)

- Title of the Journal
- Volume (if available)
- Edition (if there are several editions)
- First and last page of the article

Examples

- Börner, Christoph J.; Lowis, Stephan (2001): Kernkompetenzen — Wegweiser für das Wachstum junger Unternehmen, in: Finanz Betrieb, Vol. 3, No. 2, pp. 145-151.
- French, Craig W. (2003): The Treynor Capital Asset Pricing Model, in: Journal of Investment Management, Vol. 1, No. 2, pp. 60-72.
- Kraus, Alan; Litzenberger, Robert H. (1976): Skewness Preference and the Valuation of Risk Assets, in: The Journal of Finance, Vol. 31, No. 4, pp. 1085-1100.
- Markowitz, Harry M. (1991): Foundations of Portfolio Theory, in: The Journal of Finance, Vol. 46, No. 2, pp. 469-477.

3) Compilation

- Name, first name of the author (several authors can be separated with a semicolon)
- Year of publication in brackets (if necessary with corresponding letters)
- Main title and (if available) subtitle (separated with a dot)
- Editor of the compilation (can be separated with a semicolon)
- Main title and (if available) subtitle of the compilation (separated with a dot)
- Number of Volume (if necessary)
- Edition (if there are several editions)
- Place of publication
- First and last page of the article

Examples

- Albrecht, Peter; Schwake, Edmund (1988): Versicherungstechnisches Risiko, in: Farny, Dieter (Ed.): Handwörterbuch der Versicherung, Karlsruhe, pp. 651-657.

- Stern, Thomas (2017): Liquiditätsregulierung: LCR, NSFR und AMM, in: Cech, Christian; Helmreich, Silvia (Ed.): Meldewesen für Finanzinstitute. Was bringt die neue europäische Aufsicht?, Wiesbaden, pp. 151-179.

4) Working/Discussion Paper

- Name, first name of the author (several authors can be separated with a semicolon)
- Year of publication in brackets (if necessary with corresponding letters)
- Main title and (if available) subtitle (separated with a dot)
- Type (and name if available) and number of the paper

Examples

- Basel Committee on Banking Supervision (2013): Liquidity stress testing: a survey of theory, empirics and current industry and supervisory practices, Working Paper, No. 24.
- Candelon, Bertrand; Sy, Amadou N. R. (2015): How Did Markets React to Stress Tests?, IMF Working Paper, WP/15/75.
- Fernandes, Marcelo; Igan, Deniz; Pinheiro, Marcelo (2015): March Madness in Wall Street: (What) Does the Market Learn from Stress Tests?, IMF Working Paper, WP/15/271.
- Georgescu, Maria-Oana; Gross, Marco; Kapp, Daniel; Kok, Christoffer (2017): Do stress tests matter? Evidence from the 2014 and 2016 stress tests, ECB Working Paper, No. 2054.

5) Internet

- Name, first name of the author (several authors can be separated with a semicolon)
- Year of publication in brackets (if necessary with corresponding letters)
- Main title and (if available) subtitle (separated with a dot)
- URL
- Access date

<u>Examples</u>

- Bundesanstalt für Finanzdienstleistungsaufsicht (2002): Durchbruch bei Basel II, Press release 14/2002 from 10.07.2002, URL: http://www.bafin.de/presse/pm02/pm-02_14.html, (Access date: 08/26/2002).
- Eurex Frankfurt AG (2020): VSTOXX R - Europas Benchmark für Volatilität, URL: https://www.eurexchange.com/exchange-de/produkte/vol/vstoxx, (Access date: 05/27/2020).

<u>Information about internet sources</u>

When using sources from the Internet, special attention should be paid to a careful selection, since the quality and reliability of authors and publications can hardly be checked.

4.2.9 List of Legal Sources

The legal sources used are to be inserted in a separate list of legal sources. This includes national and international laws, regulations and directives. A corresponding subdivision is recommended, differentiating between national and international rules.

<u>Examples</u>

German Law

- Kreditwesengesetz (KWG) in der Fassung der Bekanntmachung vom 9. September 1998 (BGBl. I S. 2776), das zuletzt durch Artikel 4 Absatz 7 des Gesetzes vom 10. Juli 2020 (BGBl. I S. 1633) geändert worden ist.

EU Regulation

- Regulation (EU) No. 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No. 648/2012.

EU-Directives

- Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC.

4.2.10 Declaration on honor

At the end of each thesis, a declaration on honor in accordance with the respective examination regulation must be added as the last page. The declaration on honor should have the following wording:

> "I assure that I have written this bachelor thesis [or master thesis] independently and without the use of any aids other than those specified. All passages that have been taken literally or analogously from published and unpublished writings are marked as such. The work has not yet been submitted in the same or similar form or in extracts in the context of another examination. "
>
> (Place, Date, Signature)

In the case of a project work, it not necessary to add a declaration of honor. Particularly in the case of bachelor and master theses, reference should be made to the applicable **examination regulations** regarding the correct declaration of honor.

5 Example for a Title Page

<Title>

Bachelor thesis/Master thesis

or

Project work

Academic year <Year/Year>

Submitted to

Chair of Business Administration, especially Financial Services

Heinrich Heine University Düsseldorf

Prof. Dr. Christoph J. Börner

From

<First name> <Last name>

<Date of birth>

<Street> <House number>

<Residence>

<Phone number>

<E-Mail>

Enrolment number: <Enrolment number>

Date of submission: <Date>

6 Example for a Table of Contents

Table of Contents

II

7 Example for Citation and Bibliography

„Let's eliminate the potential difficulties by eliminating illiquid banks. That may be a good idea, or it may be silly - as silly as a proposal to reduce automobile accidents by limiting automobile speeds to zero." (Wallace (1996), p. 4).

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Furthermore, in addition to money, assets that can be converted directly to cash are also associated with liquidity (cf. Hartmann-Wendels et al. (2019), p. 402). Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Liquidity risk in the narrower sense describes the possibility that a bank will no longer be able to meet current and future payment obligations in full or on time and is also referred to as insolvency risk (cf. BaFin (2008), p. 5). Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Consequently, it can be concluded that the return of a single security in equilibrium is also determined only by its systematic, proportional risk contribution to the market portfolio β_i (cf. Sharpe (1964), p. 441 f.). Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Collin-Dufresne et al. (2001) empirically investigate the determinants of changes in credit spreads, concluding that they are primarily determined by macroeconomic variables, in contrast to theory, which describes firm-specific factors as essential (cf. Collin-Dufresne et al. (2001), p. 2205). Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Test procedures also fail when the new information leads to an increase in the variance of the abnormal returns in the event period and the tests are based on the variances of the estimation period (cf. Brown, Warner (1985), pp. 22-24).

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Bibliography

Brown, Stephen J.; Warner, Jerold B. (1985): Using Daily Stock Returns. The Case of Event Studies, in: Journal of Financial Economics, Vol. 14, No. 1, pp. 3–31.

Bundesanstalt für Finanzdienstleistungsaufsicht (2008): Praxis des Liquiditätsrisikomanagements in ausgewählten deutschen Kreditinstituten.

Collin-Dufresne, Pierre; Goldstein, Robert S.; Martin, J. Spencer (2001): The Determinants of Credit Spread Changes, in: The Journal of Finance, Vol. 56, No. 6, pp. 2177–2207.

Hartmann-Wendels, Thomas; Pfingsten, Andreas; Weber, Martin (2019): Bankbetriebslehre, 7th Edition, Berlin.

Sharpe, William F. (1964): Capital Asset Prices: A Theory of Market Equilibrium under Conditions of Risk, in: The Journal of Finance, Vol. 19, No. 3, pp. 425–442.

Wallace, Neil (1996): Narrow Banking Meets the Diamond-Dybvig Model, in: Federal Reserve Bank of Minneapolis Quarterly Review, Vol. 20, No. 1, pp. 3-13.

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