

Latvia University of Life Sciences and Technologies

Faculty of Economics and Social Development

## **GUIDELINES FOR WRITING AND DEFENDING STUDY PROJECTS**

A methodological aid for bachelor students of the academic bachelor study programme  
**Economics** implemented by the LLU Faculty of Economics and Social Development

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# CONTENTS

1. GENERAL OVERVIEW .....	3
2. WRITING AND SUPERVISING A STUDY PROJECT .....	3
2.1. Choosing a topic for the study project .....	3
2.2. Functions of the supervisor of the study project.....	3
2.3. General structure and composition of the study project.....	4
2.3.1. Title page .....	4
2.3.2. Contents .....	4
2.3.3. Introduction.....	5
2.3.4. Main part of the study project.....	6
2.3.5. Conclusions and proposals.....	7
2.3.6. List of references .....	8
2.3.7. Annexes .....	8
3. FORMATTING THE STUDY PROJECT .....	8
3.1. General requirements .....	8
3.2. Formatting the text.....	9
3.3. Formatting tables .....	9
3.4. Formatting figures.....	12
3.5. Formatting formulas .....	15
3.6. Citing references within the text.....	16
3.7. Making a list of references.....	18
4. PRESENTATION OF THE STUDY PROJECT FOR DEFENCE.....	22
ANNEXES.....	23

# 1. GENERAL OVERVIEW

The purpose of the Guidelines is to familiarise students with the requirements writing and formatting study projects and their presentation.

The **aim** of study project is to integrate theoretical knowledge into practical research about actual problems in economy. Students will analyze economical problems and make conclusion and proposals about development and growth in Latvia according to the results of the research.

After completing the study project student will have:

- **knowledge** – students are able to integrate the knowledge gained in theoretical courses to conduct practical studies on topical economic problems, present profound and comprehensive knowledge on theoretical principles and relationships in macroeconomics, comprehend and be competent in the legislation and topical scientific achievements in the corresponding industry, and justifiably and critically assess views expressed by various scientists and specialists according to an economic situation in Latvia.
- **skills** – students are able to independently obtain, select, systemise, and analyse information, conduct an independent study, draw justified conclusions on the problem in general, and elaborate proposals for improving the situation.
- **competencies** – students can integrate the knowledge gained in their theoretical courses to conduct practical and independent studies on topical economic problems, analyse basic economic problems and make independent and justified conclusions and proposals.

## 2. WRITING AND SUPERVISING A STUDY PROJECT

### 2.1. Choosing a topic for the study project

The student shall choose a topic for his/her study project based on his/her scientific and professional interests, the level of theoretical preparedness and the availability of information needed for the paper. The topic shall be accepted by the scientific supervisor. The topic shall be consistent with the scope of the study project programme, focusing on the following research directions: macroeconomics, agrarian economics, regional

### 2.2. Functions of the supervisor of the study project

The duties of the supervisor involve advising the student on research-related matters:

- drawing up a work plan;
- making the structure and theoretical part of the study project;
- selecting bibliographical sources and other sources of information;
- choosing research methods.

The duty of the supervisor shall be to review individual parts of the study project and the whole project and indicate what changes have to be made and what additional is necessary; yet, the supervisor shall not directly influence the content.

The supervisor shall not accept a study project if it represents a compilation of the works of other authors and copied texts from earlier published works (even if there are references to the works) or if the paper contains indications of plagiarism. If the supervisor believes that the student's research, in terms of content and form, complies with the methodological requirements set by the Faculty, he/she signs the study project

and it shall be submitted to the related institute and accepted for defence.

### 2.3. General structure and composition of the study project

The structure of a study project shall be as follows:

- title page;
- contents;
- introduction;
- main part of the study project divided into chapters and subchapters;
- conclusions;
- proposals;
- list of references in alphabetical order;
- annexes (if necessary).

A recommended **length** of study project shall be **30-35 pages** (without annexes).

#### 2.3.1. Title page

The title page is the first page of the study project. It indicates the name of the university, the name and surname of the author, the topic, the name and surname, scientific or academic degree and academic position of the supervisor (see Annex 1).

In Latvia, Latin abbreviations of scientific and academic degrees are used, which are supplemented with an abbreviation of the particular science. The doctor's and master's degrees are abbreviated as *Dr* or *Mg*, for example, *Dr.sc.soc*, *Dr.oec.*, *Dr.paed.*, *Dr.phil*, *Dr.hist.*, *Mg.sc.soc.*, *Mg.paed.* The abbreviations shall be in italics.

The academic title of the supervisor shall be abbreviated as follows:

- professor – prof.;
- associated professor – assoc.prof.;
- assistant professor – assist.prof.;
- lecturer – lect.;
- teaching assistant – assist.

#### 2.3.2. Contents

The contents of the study project shall indicate all the components of it up to the annexes (see Annex 2). The titles of chapters and subchapters in the contents and in the text shall be identical.

The title page and the contents page **shall not be numbered but shall be included** in the total number of the pages. The numbering of the study project pages shall be started with the next page after the Contents. The section break icon shall be used to do it.

It is recommended to make a table of contents by employing a tool for making such a table automatically.

#### **Making a table of contents automatically**

**Step 1.** Define a style for Heading 1 in accordance with the Guidelines or required standards (e.g. the font, the size of the font). *Home* > *Styles* [right click the mouse on the icon Heading 1] > *Modify*.

**Step 2.** The same operation is repeated for subheadings (Heading 2, Heading 3 etc.). If the subheadings are not required, this operation is omitted.

**Step 3.** In a new document, when beginning any next chapter, the headings are defined according to their level – Heading 1 etc. It is done by placing the cursor on the heading or a better way is if highlighting the heading text and clicking the icons *Home* > *Styles* > [Heading 1 or Heading 2 etc.].

In an existing document, the operations are the same for viewing the entire text and

finding the headings as well as defining the necessary formatting style.

**Step 4.** Place the cursor on the page for the table of contents and go to References > Table of Contents.

It allows choosing a blank table of contents (by clicking the cursor on Automatic Table 1 or Automatic Table 2).

**Step 5.** Every time when wishing to update the headings and page numbers in the table of contents, place the cursor there and press keyboard button F9. Two options will appear: Update page numbers only or Update entire table. Performing this operation (the updating of the table of contents) is recommended before sending the study project to another individual or before printing it or after it has been completed.

**!!!** If the newly created table of contents also includes some text that does not have to appear in the Contents, Clear formatting or the Normal style has to be applied to the text in the body text defined as Heading 1, 2 or 3 (not in the table of contents), and the text has to be reformatted in accordance with the Guidelines. After performing the operation, the table of contents shall be updated (Step 5).

### 2.3.3. Introduction

The Introduction shall make a potential reader interested in, giving insight into the content and findings of the study project. The Introduction shall briefly describe what other authors have examined in the field of the chosen topic and related problems and topical issues and the scope of their examinations. It shall also specify the period and scope of the author's research.

*The Introduction shall specify:*

- problem situation and justify the urgency of the topic;
- research problem and the scientific significance of it;
- research limitations (if necessary);
- give brief insight into how extensively the problem has been researched (in Latvia and in the world);
- research novelty (the author's contribution to researching the problem within the scope of the study project);
- elements of the study project programmatic part:
  - research aim;
  - research tasks to achieve the aim;
  - research object and subject;
- research approach, data acquisition and analysis methods.

*The definition of a research problem and of the urgency of the problem* is the starting position of any research study. It shall be based on the latest practical and theoretical findings. *The research problem* is a situation that is identified as a complex theoretical and practical issue or task to be examined. In sociology, a problem is a contradiction in a situation that has to be examined and solved employing an appropriate theory.

The identification of a research problem is associated with the choice of a research object and subject. The research object and subject are those really involving the research problem or the contradiction, a solution to which has to be identified during the research process. *The research object* is part of the reality within the scope of which the research subject is present. In sociology and other social and human sciences, the research object is defined as any particular object to be examined; it may be a process or a phenomenon that create a problem situation and that may be chosen for research, as well as an individual, a group of individuals or an organisation. *The research subject* is an aspect of the object chosen for analysis and for the creation of a theoretical conception. It represents

a narrow scope of individual elements and their interrelations, which lies within the boundaries of the research object: a distinctive feature or features. If it is not possible to examine all the aspects related to the problem sufficiently deeply and broadly, then *limitations* shall be set for the research when defining the research object and subject.

Based on the urgency of the topic, a research aim shall be defined for the study project – an ideal and mentally expected research result (what I want to achieve by means of my research: what I have to examine, what I have to discover and what I have to develop?). There is a single research aim for the study project, which shall be defined as short and specific as possible.

*The specific research tasks* reveal the way the aim is going to be achieved. The tasks are particular methodological activities that are subordinate to the aim and reflect the course of achieving the aim. The tasks reflect the content of the study project (often, a chapter of the study project is dedicated to every task).

Research *methods* are instruments, by means of which the research tasks are performed in the study project. The research approach (quantitative, qualitative or combined) applied and the methods of information acquisition and data analysis shall be specified in the study project. The quantitative approach tests a hypothesis, while the qualitative approach creates the hypothesis.

Fundamental scientific research studies as well as research papers in international indexed publications, original works by theoreticians in sociology, monographs, encyclopaedias of the relevant science and explanatory dictionaries and the scientific literature serve as *information sources* for the study project. The research may use laws of Latvia and other states, government decisions, government policy documents, statistical data, periodicals, unpublished materials of enterprises and organisations, researcher handbooks, press materials, previously conducted and published research studies, unpublished research studies and reports, Internet materials etc. The author's previous research studies (e.g. the bachelor's paper, surveys) may also serve as the information sources.

#### 2.3.4. Main part of the study project

The main part of the study project deals with a **theoretical and analytical or empirical** solution to the problem defined in the introduction. The study project's main part, theoretically, consists of a theoretical and an empirical part, which are subdivided into chapters. It is useful to divide large chapters into subchapters. The number of chapters and subchapters is not restricted – it depends on the length and content of the study project (usually there are 3 chapters). A chapter shall not have only one subchapter. To avoid the fragmentation of the study project, a subchapter shall not be shorter than two pages.

First chapters are usually shaped as a **theoretical discussion**, in which the author summarises facts and compares theories developed by various scientists; on this basis, an analysis of the problem is performed giving comprehensive insight into the theoretical and practical examination of the problem and reflecting the findings of the latest published research investigations and discussions. The theoretical chapters give explanations of the concepts pertaining to the topic and set out the theoretical framework and findings regarding the researched problem according to the conception of the study project.

It is advised to refer to also international experience in tackling the problem chosen by the author, stressing the positive aspects or drawbacks. In elaborating the theoretical part, a great role is played by a critical examination of the literature and information sources and, if the author's ideas considerably differ from the findings available in the literature, a convincing justification of the author's idea shall be provided – which

particular scientist's (discussion participant's) conclusions the author disagrees with and why. The theoretical chapters shall not represent a summary of findings of only other authors; the opinion and judgements of the author him/herself shall be given as well. The theoretical chapters shall not be written in the form of annotation or reproduction about the works read. All the chapters have to be logically interrelated and end with logical transitions to the next chapter/subchapter. At the beginning of a chapter, a few paragraphs of general binding information may be added, which explain the issues dealt with in the chapter and bind the particular chapter to the rest of the text.

Next chapters are the **analytical or empirical part** of the study project, the author shall present the skill to independently perform an examination and an analysis of empirical data. The study project's theoretical chapters create a conceptual framework for empirical research; therefore, its theoretical and empirical parts shall be closely and logically interrelated, as the theoretical findings are tested empirically. The study project empirical part shall present an **analysis of acquired data**, which shows the skill of the author to perform a research investigation by using the knowledge, informative materials and data acquired. Qualitative and quantitative data processing and analysis methods and software shall be employed in the processing of empirical data, for example, statistical analysis, standard programs (e.g. SPSS, NVivo etc.), discourse analysis and other scientific methods. The data processing and analysis methods shall be selected in line with the chosen research approach. A special focus shall be placed on the analysis and interpretation of acquired data. If necessary, the acquired data are presented in tables and figures, and an analytic assessment of the information presented and the trends and relationships identified is obligatory.

### 2.3.5. Conclusions and proposals

Conclusions and proposals are the final part of the study project, which plays the most important role in the defence of the study project. Conclusions and proposals have to be written in the *form of theses* and *numbered with Arabic numerals*. Proposals might be an important result of the research done in the study project. The need for proposals is determined by the research aim and tasks. In conclusions, the author shall demonstrate that the aim has been achieved, the tasks have been performed as well as whether and how the hypothesis has been proved and give answers to the research questions. In conclusions, the author may reflect his/her ideas about further research.

**Conclusions** shall:

- be directly associated with the research aim and tasks;
- reflect the most important findings derived from the study project's content;
- be supported with the most important data and facts presented in the study project.

It is advised to draw up 1-2 conclusions from every chapter of the study project, and more conclusions shall be derived from the empirical part. They shall not contradict each other.

**Proposals** shall be:

- based on the data analyses, surveys and conclusions made in the study project;
- justified, concrete, addressed to a certain entity and feasible in practice.

Proposals shall stress the recommendations justified in the study project and aimed at solving the problem, avoiding drawbacks or using positive experience. Proposals shall not be defined in an undetailed and general way, for example, "*to make amendments to the legislation*", "*to create a favourable environment for an organisation*"; the author shall specify – Who has to do? What to do? When to do? How to do?

### 2.3.6. List of references

A list of references represents all the bibliographical sources – books, research papers, texts and other informant sources – **referred to** in the study project and used during the work on it, giving bibliographical details in the language in which the information is available (the original language).

**!!!** It is obligatory for the study project to use fundamental research findings, monographs, original works as well as research papers in international indexed publications. The study project shall not refer to Wikipedia and unpublished lecture materials, as well as the use of textbooks is not appropriate for the level of study project. The minimum number of bibliographical sources used shall be 15.

### 2.3.7. Annexes

Annexes represent documents and data if they are too detailed and large in size for being placed in the main text. They shall be separated by a page, in the centre of which the heading ANNEXES is placed (it shall be formatted as Heading 1 and not numbered); the page shall be included in the total number of pages and shown in the Contents. Annexes **shall not be included** in the total length of the study project, their pages shall not be numbered; yet, the page of any new annex shall indicate a number in the top right corner (e.g. *Annex 1*). If an annex is several pages in length, every next page shall indicate “continued”, e.g. *Annex 1 continued*.

Annexes shall have:

- example(s) of the instrument(s) for acquiring primary data;
- example of a filled-in questionnaire for every surveyed group\*;
- examples of interview transcripts\* (all expert interviews + at least three interviews from the surveyed group(s));
- observation maps\*, the content analysis matrix(es)\*;
- worksheet tables that were used for calculations but not included in the text;
- filled-in forms of documents, instructions, statutes etc. may also be included.

## 3. FORMATTING THE STUDY PROJECT

### 3.1. General requirements

The text shall be written in the English language, taking into consideration the following requirements:

- formulation of the text shall be accurate, clear, logical and concrete;
- new idea shall be started in a new paragraph;
- new chapter shall be started on a new page, while a new subchapter – on the same page;
- every chapter shall be numbered (with Arabic numerals) and have a heading;
- subchapters shall be numbered and have a heading.

The student is the author of the paper. The pronoun “I” and any verb with the first person pronoun shall not be used – information may be given in the passive voice, indicating no particular performer of an action, for example, “*according to the research results, one can conclude that...*” However, it is even less appropriate to replace the pronoun “I” with the pronoun “we” because the research done by the author shall be **original and performed independently by him/herself**. It is advised to use the phrases: “*the author believes...*”, “*in the opinion of the author*”. The passive voice may be

employed, for example, “*it was examined, revealed in the chapter*”.

### 3.2. Formatting the text

The study project shall be written and formatted in a visually pleasant way and comply with the requirements set in the Guidelines:

- text shall be formatted in A4 page size (210 mm×297 mm);
- text shall be justified on both sides; the left margin shall be set at 35 mm and the top, bottom and right margins at 25 mm;
- **body text** shall be formatted in 12 pt font, chapter **headings** in 14 pt bold, all caps, **subchapter headings** in 12 pt bold. Spacing before and after a subchapter heading shall be 12 pt and 6 pt, respectively;
- every **chapter** shall be started on a new page, spacing after the heading shall be 18 pt if it is followed by the chapter’s text or 12 pt if it is followed by a subchapter heading. If the chapter is divided into subchapters, the chapter’s heading is followed by the first subchapter’s heading;
- **subchapters** shall not be started on a new page; yet, the heading and at least two lines of the first paragraph of the subchapter’s text shall be available on one page (the heading shall not appear at the bottom of a page if the chapter’s text begins on the next page as well as a long heading shall not appear on two pages);
- **headings** shall be centred and not indented. They shall be **automatically numbered with Arabic numerals** (except the following headings: Contents, Introduction, Conclusions, Proposals and the List of References). **No full stop** is put at the end of a heading. The number of a subchapter includes the number of the main chapter and a serial number within the chapter, e.g. *1.1., 1.2., 2.1., 2.2.* etc.;
- font – Times New Roman;
- spacing between lines shall be set at 1.5;
- indent for a new paragraph shall be set at 10 mm;
- pages shall be counted beginning with the title page, and the Contents pages shall be also included in the total number of the pages (they are not numbered). The pages are numbered beginning with the next page after the table of contents. The page numbers shall be placed at the bottom of the page and aligned right using Arabic numerals sized 12 pt (Annex 3);
- decimal separator shall be a **full stop, rather than a comma**;
- non-breaking space shall be placed between a number and its measurement unit (*ctrl+shift+space*), e.g. 5 h, 3 pcs., except for the % mark, as no space shall be placed between a number and it, e.g. 3%;
- the same bullet style shall be used in the entire text. After the bullet, the text may start with a capital or small letter;
- if numbering items by means of a number and a full stop (in this case no colon is used and the text starts with a capital letter, placing a full stop at the end) or a number/letter with a parenthesis (in this case a punctuation mark (except a full stop) may or may not be placed before a numbered item; the text starts with a small letter and a coma or colon is placed between the numbered items).

### 3.3. Formatting tables

To easier perceive analytical information, it is advised to supplement the study project with tables and figures; yet, the same information shall not be presented two times in the study project, i.e. the author shall decide on how to illustratively present the data and information – in tables or figures.

Every table shall be numbered within the chapter. The table shall be numbered with **two numbers** using Arabic numerals: the first number indicates the **number of the chapter**, while the second one – the **number of the table within the chapter**. The table number shall be placed above the table, intended right, e.g. Table 3.1. Every table shall be given a title being appropriate for its content. The table title shall be centred horizontally, sized 12 pt and bolded; it is placed in a new line and **no full stop** is placed at the end. The text in the table header shall be centred and bolded. The table shall fit to the width of the text (*Auto Fit Window*).

The table title shall answer the following questions: **What? Where? When?** and **In what units of measurement?** (see examples below). Measurement units shall not be indicated if they are illogical (e.g. Table 3.1). If data in the table have various and different measurement units, no measurement units shall be indicated in the table title; the measurement units shall be indicated in the row next to the indicator name. In the table title, a measurement unit shall be separated by a comma.

**!!!** Any table shall have at least three rows and, if quantitative indicators are indicated, at least three columns.

In the study project, a table shall be placed as close to the first reference to it as possible. An explanation of and conclusions drawn from the table's content shall be always provided in the text. Giving an interpretation of the table's data shall be an **obligatory** task of the author of the study project.

The source of information shall be indicated for every table. The reference to the source shall be formatted as a citation. The way how to format a citation is provided in Subchapter 3.6 headlined *Citing references within the text*.

### Examples of formatting tables

Table 3.1

#### Definition of life quality by various sciences

Science	Fragments of the most important definitions	Source
Philosophy	necessity to distinguish the factors that maintain life and strengthen or weaken <b>the ability to enjoy the life</b> from those making us wish to stay alive	Garratt, 1994
Social sciences	as <b>average weighted</b> , if comparing various indicators	Kuhneman, 1999
	<b>income level</b> is usually <b>associated with satisfaction and happiness</b> in particular countries and a particular period, a higher national income level does not contribute to a higher overall satisfaction level at national level	Lends, 2002
	to some extent an amorphous, <b>multilayer</b> and <b>complex</b> conception <b>with</b> many and various components – <b>objective</b> and <b>subjective</b> , <b>macro</b> -social factors and <b>micro</b> -individual factors, <b>positive</b> and <b>negative</b> aspects, which diversely <b>interact</b> among each other	Walker, 1995
Gerontology	life quality for old individuals <b>depends on reserves – resources and knowledge</b> , which have been accumulated throughout their life, e.g., personal social support, social capital, social skills, material resources etc.	Grundy, 2004
	life quality is a <b>reflexive</b> concept, which reflects <b>overall development</b> , i.e. the <b>level in which</b> an individual <b>can satisfy all the needs</b>	Bosch, 2005

**Table 3.1 continued**

Science	Fragments of the most important definitions	Source
Medicine	set of mutual <b>interactions</b> among <b>objective</b> and <b>subjective</b> dimensions, i.e. a <b>multidimensional</b> assessment of an individual's personal and environmental systems, given both personal and socio-economic criteria	Lawton, 1991
	product of <b>interaction</b> of social, health, economic and environmental conditions, which influences human and social development	Canadian Social Development Council
Psychology	definition of subjective wellbeing involves three components: pleasant affect, unpleasant affect, satisfaction, where 1) high pleasant affect + low unpleasant affect = <b>happy</b> ; 2) low pleasant affect + high unpleasant affect = <b>unhappy</b> .	Diener, Lucas, 1999

Source: author's construction (Smith, 2000; Phillips, 2006<sup>c</sup>; Brown, 2004; Walker, 2005; Bosch, 2005; Kuhneman, Schwarz, 1999; Borgatta, 2002).

Table 3.2

**Financial burden of repayment (purchases on credit and loans) and of total home expense for pensioners in the regions of Latvia in 2007, % (n=1971)**

Indicators	Territory	Ratings by pensioners		
		<i>very difficult to pay</i>	<i>slightly difficult to pay</i>	<i>not difficult to pay</i>
Financial burden of total home expense	Riga	35.5	50.2	14.3
	Pieriga	36.1	56.8	7.1
	Vidzeme	37.4	52.5	10.0
	Kurzeme	30.8	53.5	15.8
	Zemgale	43.5	39.2	17.3
	Latgale	46.8	42.2	11.0
Financial burden of purchases on credit and loans	Riga	7.4	57.4	35.3
	Pieriga	10.5	78.9	10.5
	Vidzeme	47.8	43.5	8.7
	Kurzeme	11.1	60.0	28.9
	Zemgale	43.4	43.4	13.2
	Latgale	23.7	55.3	21.1

Source: author's survey based on the CSB EU-CILC anonymised database

Statistical practices have created general rules for making an accurate statistical table. The most important ones are as follows:

- a table shall not be too large and complicated. Instead of creating one large table, it is advised to create two or several small ones. If the table exceeds half a page, it shall be used as an annex;
- it is recommended to make a table longer rather than wider;
- if a table has to be split and a part of it has to be placed on the next page, the table number shall be indicated above the table in the top right corner of the page together with the words "Table continued" in bold; the table header shall be repeated (see Table 3.1). The continuation of the table shall not be less than two rows. If the table header is large, the header columns shall be numbered and the numbers shall be used in the continuation;
- every cell shall be filled in the table. If a phenomenon has not been observed,

a hyphen (-) shall be written in the cell. If the phenomenon has been observed but no data are available, three dots (...) shall be put. If some cell may not be filled in owing to logical reasons, a cross mark is put (X);

- character sizes in a table shall be in the range of 10-12 pt;
- source of information shall be indicated under the table, formatted in italic, and a full stop shall be put at the end. The characters shall be sized 11 pt; spacing 0 pt before and 6 pt after.

### 3.4. Formatting figures

Illustrations – schemes, diagrams, drawings, maps etc. are called **figures**. A figure shall be placed in the study project as close to a reference to it in the text as possible. The figure shall be placed in a way so that it is easy to see it and read it's text in the direction of reading or if the study project is rotated 90° clockwise.

Figures shall be numbered with Arabic numerals within the chapter, for example, Fig. 3.1, Fig. 3.2.

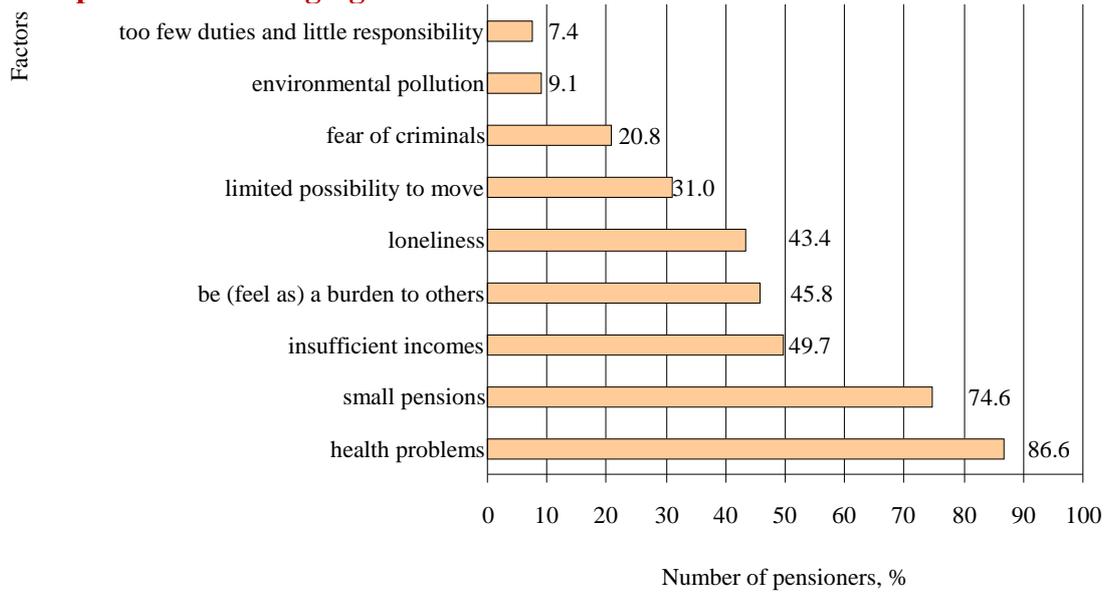
Every figure is given a title, which is placed under the figure and centred, in the same line with the figure number; characters shall be sized 12 pt, bolded; spacing 6 pt after. The figure title shall answer the following questions: **What? Where? When?** and **In what units of measurement?** (see Figures 3.2 and 3.3). Measurement units shall not be indicated if data in the figure have two different measurement units or if they are illogical (see Figures 3.4, 3.5 and 3.6). **No full stop** is put at the end of the figure title. In the figure title, the measurement units shall be separated by a comma.

No **fill, shadows and borders** shall be used in figures. Gridlines shall be of size ¼ or 0.25 pt and the numeral/character size shall be set at 10-12 pt. Texts on figures shall be avoided; instead, numerals and symbols shall be used, which are explained under the figure. The explanatory text for abbreviations and symbols shall be sized 10 pt. The figure shall be centred. Spacing between a figure and the following text shall be set at 6 pt.

**!!!** The x and y axes shall be defined.

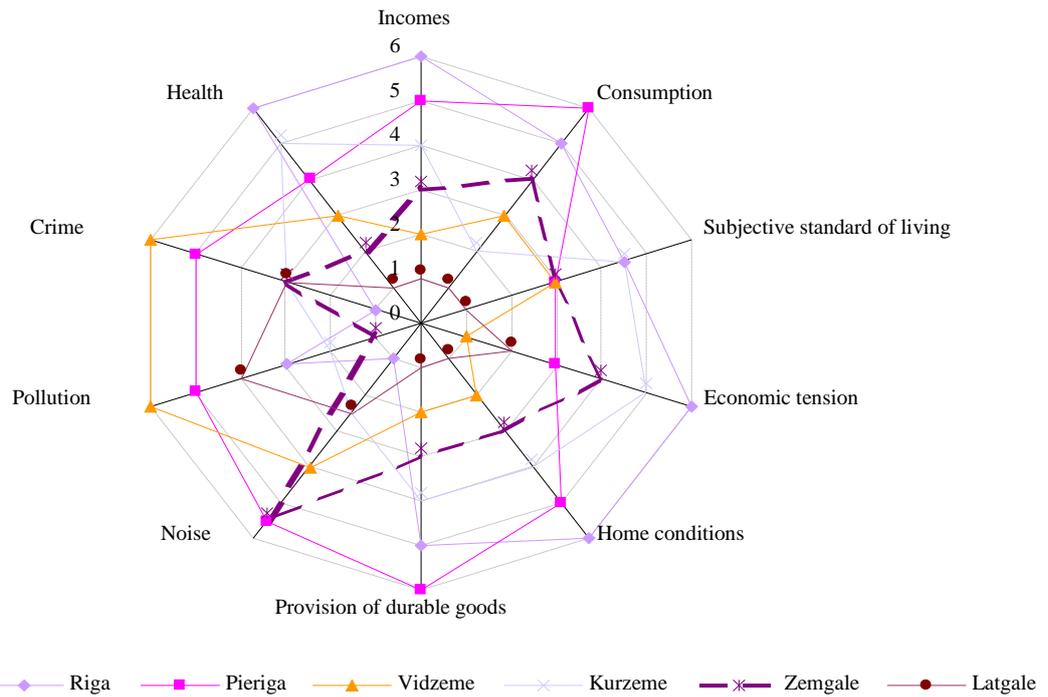
The source of information shall be indicated for every figure. The reference to the source shall be formatted as a citation and placed under the figure. The reference shall be formatted in italic, with a full stop at the end. The characters shall be sized 11 pt; spacing 0 pt before and 6 pt after.

**Examples of formatting figures**



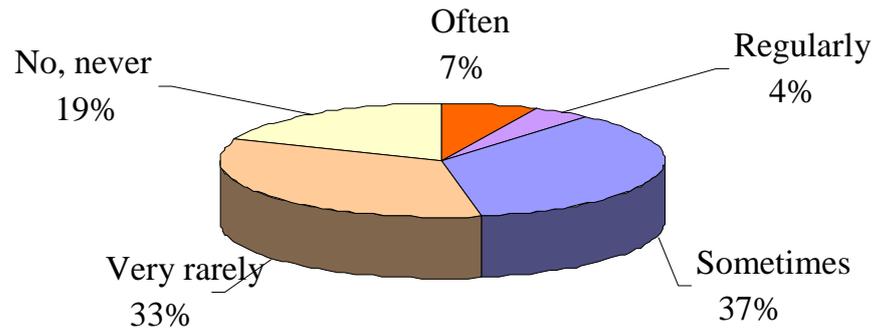
Source: author's construction based on a 2009 survey in Zemgale

**Fig. 3.1. Ratings of the most important factors in population aging by Zemgale region pensioners in 2009 (n=461)**



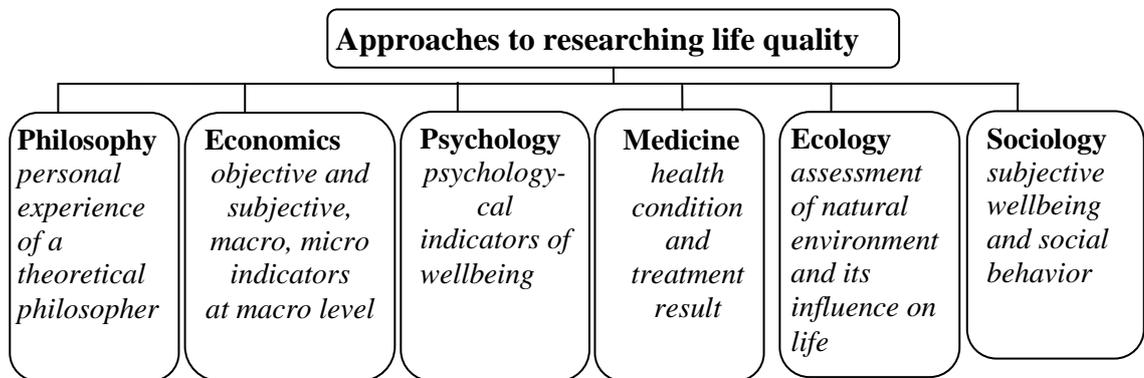
Source: author's construction based on the CSB MBA and EU-CILC anonymised database

**Fig. 3.2. Comparison of the life quality of pensioners in Latvia's regions in 2007 and 2008 (with 6 being the highest rating and 1 the lowest one)**



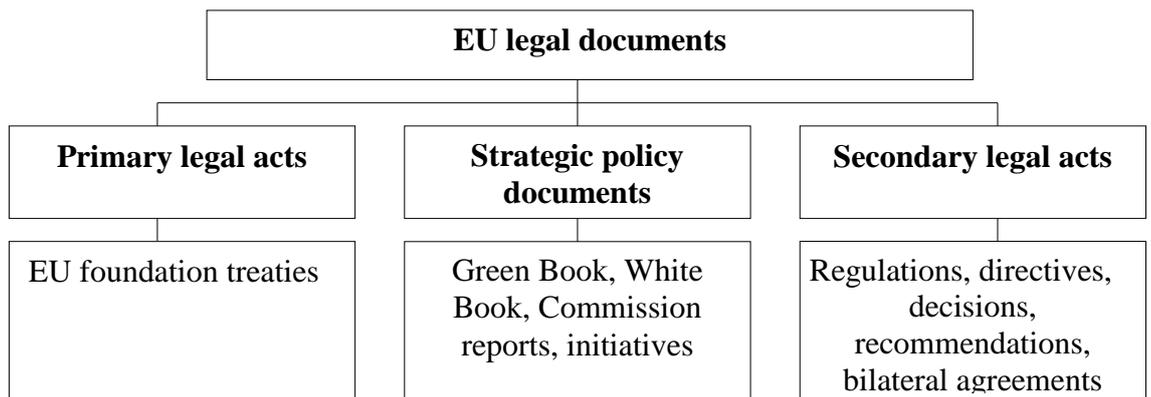
Source: author's construction based on a 2009 survey in Zemgale

Fig. 3.3. Percentage distribution of possibilities for pensioners in Zemgale region to make savings, (n=461)



Source: author's construction based on a literature review

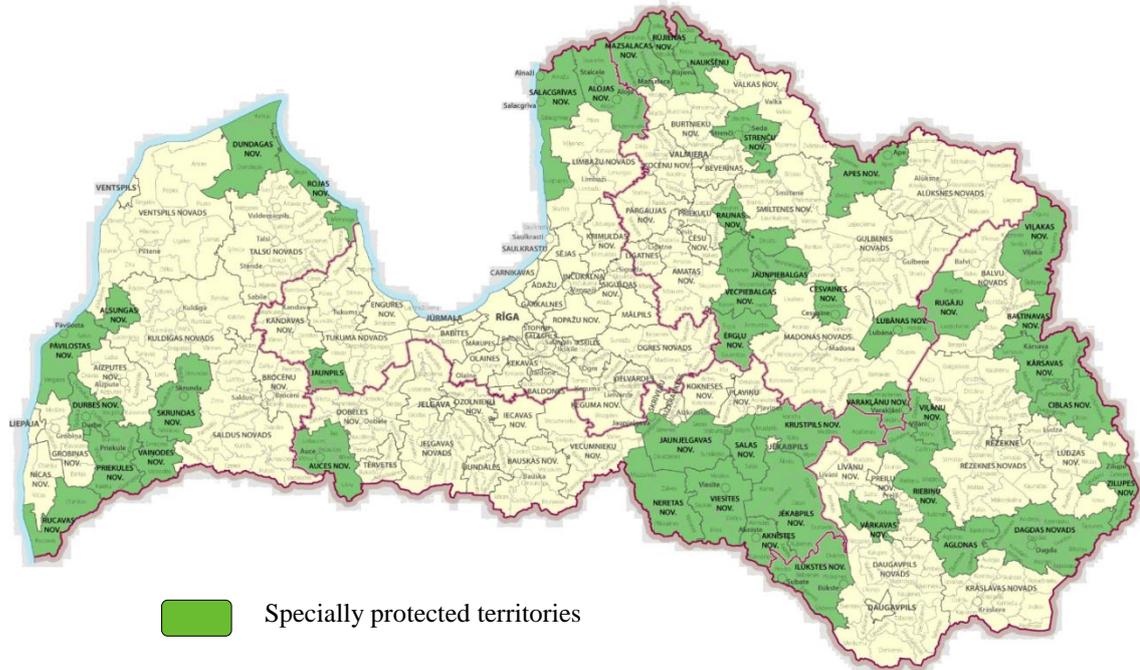
Fig. 3.4. Approaches to researching life quality in selected sciences



Source: author's construction based on the Handbook for Practical Work, 2010

Fig. 3.5. Legal act system of the European Union

!!! In schemes, arrows shall be used to describe only a process, while structural schemes shall use lines. All “boxes” shall be connected/associated with other ones, and the figure shall be understandable even if it is “taken out” of the text.



Source: State Regional Development Agency, 2012

Fig. 3.6. Specially protected territories in Latvia in 2011-2012

Technical production of figures: it is advised to scan photographs and create graphs by means of MS Excel and other computer programs.

### 3.5. Formatting formulas

Formulas shall be numbered with Arabic numerals within the chapter.

The number of a formula shall be aligned right and placed in parentheses at the level of the lowest text line. The formula shall end with a comma. The size of letters, numerals and symbols shall be of 12 pt. The formula shall be centred. Formulas shall be created using Microsoft Equation 3.0 (*Insert/ Object/ Microsoft Equation 3.0*).

Formulas being derived or created by the author shall be cited, e.g. "... The formula (3.1) created by the author".

If referring to a formula in the text, its number shall be indicated, e.g. "... calculated according to the formula (3.1)."

Formulas taken from the literature and other sources shall be referred to. e.g. "By employing statistical methods for expert evaluation, each factor's average rating by the experts was calculated by Formula 3.1."

#### Example of formatting formulas

$$\bar{v}_j = \frac{\sum_{i=1}^k v_{ij}}{k}, \quad (3.1)$$

where  $\sum_{i=1}^k v_{ij}$  – sum of expert ratings;  
 $v_{ij}$  –  $j$ -th factor's rating by the  $i$ -th expert (on a scale of 100 points);  
 $k$  – number of experts. (Vasermanis et al., 2002)

### 3.6. Citing references within the text

A citation allows identifying the source of an idea or quotation, as well as the page where to find the idea or the quotation in the source.

Any quotation, figure, formula, data, fact as well as findings and borrowed ideas shall be cited in any research study. Quotations shall be placed in quotation marks. A paraphrase of works by other authors shall not put in quotation marks; yet, it has to be unbiased.

Copying some text from a book as well as paraphrasing ideas expressed by other authors without making a citation of the source is not allowed. **Upon establishing such a violation, the author of the submitted study project shall be prohibited from presenting it for defence.**

Citations are used together with the list of references, applying **the first element and date method** – a quotation is followed by *the author or title of the document cited and the publication year*, which are put in parentheses.

**!!!** If no publication year is indicated, [s.a.], a Latin abbreviation for “no date” shall be used.

If placing a citation at the end of the sentence, a full stop is put **after the parentheses**.

Citations may be formatted in italic; yet, all the citations in the study project shall be formatted **in the same style**.

#### Examples

Text ... .. (Eko, 2006).

Text ... .. (*Personality Development in Family...*, 1999).

#### List of references

1. Eko U. (2006) How to Write a Diploma paper. Riga: Janis Roze Publishers. 314 p.

.....

5. *Personality Development in Family, at School and University* (1999): proceedings. University of Latvia: Institute of Pedagogy and Psychology; ed. S.Kramena. Riga: University Publisher NT. 90 p.

If using **several works of the same author that have been published in the same year**, and the first element and the publication year for two or more documents coincide, a small Latin letter (a, b, c etc.) shall be indicated after the publication year, which is also added to the reference in the list of references.

#### Examples

Text ... .. (Repse, 2000a).

Text ... .. (Repse, 2000b).

#### List of references

1. Repse G. (2000a) *Thumbelina*. Riga: Petergailis. 182 p.
2. Repse G. (2000a) *Close-up: Dzemmas Skulme*. Riga: Jumava. 130 p.

If a book has **two authors**, a citation shall indicate both authors and the publication year.

**Example**

Text ... .. (Petrova, Jermolajeva, 2007).

## List of references

Petrova I., Jermolajeva E. (2007) *Experience of European Countries in Territorial Marketing and Opportunities for its Application in Latvia*. Daugavpils: Daugavpils University Academic Publisher Saule. 160 p.

If a book has **three or more authors**, a citation shall indicate the first author (the first element), just as it is written on the title page, and add “et al.” and the publication year.

**!!!** If a bibliographical source is in English, an abbreviation **et al.** shall be used, in German – **u.a.**, in Russian – **и др.**, in Latvian – **u.c.**

**Example**

Text ... .. (Ancane et al., 1998).

## List of references

Ancane S., Bondars A., Klava J. (1998) *Problems of Rural Entrepreneurs in Talsi District*. Riga: Latvian State Institute of Agrarian Economics. 129 p.

**!!!** If a quotation is used in the study project, the quotation is separated from the rest of the text by quotation marks or the quotation is formatted in italic and the page number is indicated after the publication year.

**Example**

As mentioned by H. Gudijons (1998, 256), *studies are a too capacious process to be comprehensively explained by means of only one didactic model*.

As mentioned by H. Gudijons (1998, 256), “studies are a too capacious process to be comprehensively explained by means of only one didactic model”.

*The skill of evaluative thinking is the ability to objectively analyse information and acquire personal experience. The skill to critically think can strengthen the mental (psychical) health (Rubana, 2002, 18).*

**!!!** If a bibliographical source **is in Latvian**, the Latvian diacritical marks shall be replaced with respective Latin letters.

**Example**

A. Derkacs (*Деркач*) (2002, 308-309) gave the following definition of professionalism: *it is an integral psychological characteristic of human performance that reflects the level and nature of management of the individual's profession and means that the individual performs the professional duties at high quality*.

V. Janks (*Jank*) un H. Meijers (*Meyer*) (2002, 98) pointed out that *since the 1920s, a lot of didactic theories and models have been developed in Germany*.

If citing **laws and other legal documents** in the text, the **first element and date method** shall be applied, i.e. the citation shall include the first **three** words and the publication year. If the first two titles and the publication year for several documents coincide, a small Latin letter (a, b, c etc.) shall be indicated after the publication year, which is also added to the reference in the list of references.

**Example**

Text ... .. (Protection Zone Law, 1997).

Text ... .. (Environmental Protection Law, 2006).

Text ... .. (Regulations regarding Water..., 2001).

Text ... .. (Regulation of the Council (EC) No. 1083/2006, 2006).

## List of references

1. Protection Zone Law (1997): Law of the Republic of Latvia. Latvijas Vestnesis, No. 56/57, 25 February, pp. 1-3.
2. Environmental Protection Law (2006): Law of the Republic of Latvia [online] [accessed on 25 May 2011]. Retrieved: <http://www.likumi.lv/doc.php?id=147917&from=off>.
3. *Regulations regarding the Protection of Water and Soil from Agricultural Pollution with Nitrates* (2001): Cabinet Regulation No. 531 of 18 December 2001 [online] [accessed on 25 May 2009]. Retrieved: <http://www.likumi.lv/doc.php?id=56960>.
4. *Regulation of the Council (EC) No 1083/2006 laying down general provisions on the European Regional Development Fund, the European Social Fund and the Cohesion Fund and repealing Regulation (EC) No 1260/1999* [online] [accessed on 28 November 2011]. Retrieved: [http://www.esfondi.lv/upload/05-saistosie\\_dokumenti/es\\_regulas/2006-07-11\\_regula\\_1083\\_2006\\_LV.pdf](http://www.esfondi.lv/upload/05-saistosie_dokumenti/es_regulas/2006-07-11_regula_1083_2006_LV.pdf).

In-text citations of **electronic sources**. If a source to be cited is not available in printed format but only in electronic format, it may be cited just like a printed material.

**Example**

Text ... .. (Parsova, 2009).

## List of references

Parsova V. (2009) *Real Estate Formation* [electronic resource]: textbook. Jelgava: LLU. 288 p. CD.

In-text citations of **internet resources**.

**Example**

Text ... .. (Libkovska, 2007).

Text ... .. (Cadastral Evaluation, [s.a.]).

## List of references

1. Libkovska U. (2007) *Trends in Professional Education under Modern Economic Conditions* [online] [accessed 8 February 2012]. Retrieved: [www.dukonference.lv/raksti\\_pdf/Libkovska+.pdf](http://www.dukonference.lv/raksti_pdf/Libkovska+.pdf).
2. *Cadastral Evaluation* [online]: SLS [accessed 12 February 2012]. Retrieved: <http://www.vzd.gov.lv/darbibas-jomas/kadastrala-vertesana>.

**!!!** If the author of the study project has done an original research study, e.g. a survey or a questionnaire survey, a SWAT analysis of an organisation etc., the summarised results are presented in tables or figures and the source of information shall be specified as follows: *author's survey, author's construction, author's calculations* etc.

### 3.7. Making a list of references

References in a list shall be arranged alphabetically – the list shall be started with Latin references, followed by Cyrillic ones (Russian) – by author surname or by title of work. Several works of the same author shall be alphabetically arranged by title. Materials retrieved from the Internet are included and arranged in the list just like research papers.

## Monographs

The sequence of bibliographical components in a reference shall be as follows: author surname, initials (year) *Title of the Monograph*: other details. Place of publication: publisher. Total number of pages.

!!! **Other bibliographical details may be as follows**: proceedings, international conference materials, teaching aid, textbook etc.

If referencing a **whole book**, a **full stop** shall be put before the number of pages.

The title of the main work shall be **formatted** in italic.

### Example

#### Single author book

Zvejnieks A. (1998) *Taxes and Fees*: textbook. Riga Technical University. Faculty of Engineering Economics. 2<sup>nd</sup> rev. ed. Riga: RTU. 412 p.

#### 2-3 author book

Ancane S., Bondars A., Klava J. (1998) *Problems of Rural Entrepreneurs in Talsi District*. Riga: Latvian State Institute of Agrarian Economics. 129 p.

#### Book or proceedings compiled by an editor

*Land Use and the Land Cadastre in Latvia* (2001). Edited by A. Boruks. Riga: LLU, Skriveri Science Centre, LV SLS. 408 p.

Section of a publication (**a chapter of a book or a monograph, a paper from a collection of conference materials or from proceedings**)

The sequence of bibliographical components in a reference shall be as follows: author surname, initials (year) Title (of the section): other details. **In**: Chief contributor (author). *Title (of the main publication)*: other details. Place of publication: publisher, page numbers.

!!! If **a section of a book** is referenced, a **coma** is put before the page numbers.

A monographic section shall be separated from the main publication (a monograph, a collection of conference materials) by the preposition “**In**” or its translations in other languages (**В кн:**).

The title of the main publication shall be **formatted** in italic.

### Example

1. Mole J. (2003) Collision of Cultures. **In**: Mole J. *Business Culture and Etiquette in Euroepan Countries*. Riga: Janis Roze Publishers, pp. 46-48.
2. Parsova V. (2001) Implementation of the State Cadastre in Latvia. **In**: *Land Use and the Land Cadastre in Latvia*. Ed. by A. Boruks. Riga: LLU Skriveri Science Centre, LV State Land Service, pp. 313-365.
3. Asejeva A., Kopiks N., Viesturs D. (2008) Application of Economic-Mathematical Simulation for the Choice of the Technical Support of Technologies of Agricultural Crops. **In**: *Economic Science for Rural Development*: proceedings of the international scientific conference, No. 16. Jelgava: LLU, pp. 14-19.
4. Feather J. (1998) Introduction. **In**: *The Information Society: a study continuity and change*. London, p. 11.

**Section of a serial publication** (proceedings, a journal, a magazine and a newspaper). An article from a periodical.

The sequence of bibliographical components in a reference shall be as follows: author surname, initials (year) Title (of the section): other details. *Title (of the main publication):* other details, issue number, date, page number(s).

**!!!** No preposition "In" or its translations in other languages (B KH:) **shall be used** to separate the section of a serial publication from the main publication in a reference.

**Example**

Article in a magazine or a newspaper

1. Riekstina A. (1998) A cowshed is ready in a few days: about the application of fibrolite plates. *Latvijas Lopkopis un Piensaimnieks*, No. 8, pp. 34-36.
2. Dzintars R. (2009) Idle time opportunities. *Latvijas Avize*, No. 260, 7 October, p. 16.

**Electronic sources**

The sequence of bibliographical components in a reference shall be as follows: *Title [online]:* other details. Publication. Place of publication: publisher, date. Total number of pages. Access data [source access date]. Retrieved.

**!!!** Publication. Place of publication: publisher, date. Total number of pages. – this information shall be specified if available.

[...] – brackets shall be used if the author wants to add his/her comment to the reference, to add something that had not been taken from the source itself. For example, [s.a.] means that no year of publication is specified for the source. [online] indicates that the material was viewed online on the Internet instead of in printed format.

**Example**

1. Berzina M. (2008) *Land Reform* [online]. *Latvijas Vestnesis*, No. 38, 26 September. [accessed 5 October 2009]. Retrieved: <http://www.vestnesis.lv/pzni/index.php?menu=doc&id=181515>.
2. *Library in the „castle of light” or on the Internet?* [s.a.] [online] [accessed 22 January 2012]. Retrieved: <http://www.dtnet.lv/raksti/LV/DP/200101/01011501.stm>.
3. Pumain D. (2004) *Central Places Theory* [online] [accessed 11 May 2011]. Retrieved: [http://www.hypergeo.eu/article.php3?id\\_article=188](http://www.hypergeo.eu/article.php3?id_article=188).

**Laws**

The sequence of bibliographical components in a reference shall be as follows: title of the law (year): law of (name of the state). Name of the source, place of publication, details of the source, publication date, page number(s).

**Example**

1. Law on Specially Protected Nature Territories (1993): law of LV. *Zinotajs*, No. 12, 1 April, pp. 801-811.
2. Protection Zone Law (1997): law of LV. *Latvijas Vestnesis*, No. 56/57, 25 February, pp. 1-3.
3. Consumer Rights Protection Law (1997): law of LV. **In:** *Legal Documents of LV: Trade*. Riga: Applied Information Service, PT-1-3-PT-1-3-21.
4. *Environmental Protection Law* (2006): law of LV [online] [accessed 10 January 2012]. Retrieved: <http://www.likumi.lv/doc.php?id=147917&from=off>.

### **Other legal documents**

The sequence of bibliographical components in a reference shall be as follows: *title of the legal document* (year): kind of the legal document and the date of adoption. Name of the source, place of publication, details of the source, date, page number(s).

#### **Example**

1. *Regulations regarding the Protection of Water and Soil from Nitrogen Pollution Produced by Agricultural Activity* (2001): Cabinet Regulation No. 531 of 18 December 2001 [online] [accessed 25 May 2011]. Retrieved: <http://www.likumi.lv/doc.php?id=56960>
2. Guidelines „Healthy Nutrition (2003-2013)” (2003): Cabinet Decree No. 556. *Latvijas Vestnesis*, 5 September, pp. 8-10.

#### **4. PRESENTATION OF THE STUDY PROJECT FOR DEFENCE**

The **defence of the study project** takes place at leading institute and evaluation has been made by the commission approved by director of leading institute. The defence of the study project shall begin with the author's report (up to 10 minutes long), in which the student specifies the urgency of the topic, a problem researched, the research aim and tasks for achieving the aim, gives a theoretical justification, familiarises the commission with research methods employed, research results, main conclusions as well as proposals, if any. The presentation shall have illustrative research results (figures, tables and the most important quotations of interviews).

The **presentation shall be followed by a discussion** (questions asked by the commission).

The **study project shall be evaluated on a 10-point scale**. The lowest pass mark shall be 4 (almost average).

## **ANNEXES**

**LATVIA UNIVERSITY OF LIFE SCIENCES AND  
TECHNOLOGIES  
FACULTY OF ECONOMICS AND SOCIAL DEVELOPMENT  
INSTITUTE OF ECONOMICS AND REGIONAL DEVELOPMENT**

Modra Saulite

**E-SERVICES IN A MUNICIPALITY: THE CASE OF  
ZEMGALE PLANNING REGION**

Study project Economics

Author

**Modra Saulite**, matr. No. ....

Supervisor

assist.prof. *Dr.sc.soc.* **Ieva Barga**

Jelgava 2019

## CONTENTS

<b>LIST OF TABLES</b> .....	(page No.)
<b>LIST OF FIGURES</b> .....	(page No.)
<b>ABBREVIATIONS, ACRONYMS AND SYMBOLS</b> .....	(page No.)
<b>INTRODUCTION</b> .....	(page No.)
<b>1.</b> (chapter title) .....	(page No.)
<b>1.1.</b> (subchapter title).....	(page No.)
<b>1.2.</b> (subchapter title).....	(page No.)
<b>2.</b> (chapter title) .....	(page No.)
<b>2.1.</b> (subchapter title).....	(page No.)
<b>2.2.</b> (subchapter title).....	(page No.)
<b>2.3.</b> (subchapter title).....	(page No.)
<b>3.</b> (chapter title) .....	(page No.)
<b>3.1.</b> (subchapter title).....	(page No.)
<b>3.2.</b> (subchapter title).....	(page No.)
<b>CONCLUSIONS</b> .....	(page No.)
<b>PROPOSALS</b> .....	(page No.)
<b>LIST OF REFERENCES</b> .....	(page No.)
<b>GUARANTEE</b> .....	(page No.)
<b>ANNEXES</b> .....	(page No.)

