Faculty of
Mathematics
and Informatics

VILNIUS UNIVERSITY
FACULTY OF MATHEMATICS AND INFORMATICS
MODELLING AND DATA ANALYSIS
MASTER'S STUDY PROGRAMME

THESIS' TITLE, WHICH CAN TAKE A FEW LINES

Master's thesis

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Abstract

Short summary of results.

Keywords: Panel data, GARCH, HLM etc.

Notation

If some notation is used. For example,

- $\mathbb{E}\,X$ denotes the mean value of random variable X.
- i.i.d. r.v.s. means *independent identically distributed random variables.*

1 Introduction

Literature overview. Citing [1, 3]. Do not forget to run pdflatex at least twice to see citation, not question marks.

2 First part title

2.1 First Chapter

2.1.1 Mathematics

Mathematical text example. For $\omega \in \mathbb{R}$ set

$$\mathbb{E}\,\mathrm{e}^{Y} = \int \mathrm{e}^{X}(\omega)\mathrm{d}\omega.$$

Here macro commands were used, see latex text for definition of d, $\mathbb{E}$, $\mathbb{R}$ and e.

Sometimes formula takes a few lines:

$$\begin{aligned} 2 &= 1+1+0 = \left(\frac{\sqrt{16}}{\tan^2\pi/3+1}\right) + \ln\mathrm{e} + \sin\pi \\ &= (\sin^2 17 + \cos^2 17)^{\ln\mathrm{e}} + \cos 0 + (x^{1/\ln x})'. \end{aligned} \tag{1}$$

For citing use equation's number (1). Do not forget to put . (dot) at the end of equation, if the sentence ends there.

2.1.2 More...

Some nice ideas.

2.1.3 And more...

More nice ideas. A few smart ones.

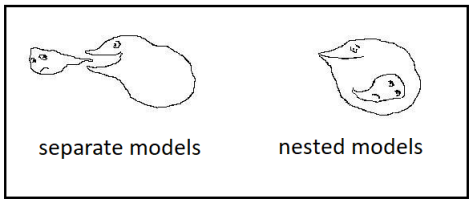
2.2 Second Chapter

It is not necessary to use many subsections.

3 Second part title

3.1 Chapter

Adding some graphics.



3.2 ...

4 Conclusions

Short repetition of the most important results, explanation what went wrong and why, which parts of research can be improved, and sometimes a promise to do better job next time.

References

[1] 1. Yang Yang; R. Leipus, J. Šiaulys. Asymptotics for randomly weighted and stopped dependent sums, *Stochastics: an international journal of probability and stochastic processes*, 2016, **88**(2), p.p. 300-319.

[2] T. Erhardsson. Stein's method for Poisson and compound Poisson approximation, *In: An Introduction to Stein's Method. Lect. Notes Ser. Inst. Math. Sci. Natl. Univ. Singap. v. 4*, Singapore: Singapore Univ. Press, 2005, p.p. 61–113.

[3] R. Kaas, M. Goovaerts, J. Dhaene and M. Denuit. *Modern Actuarial Risk Theory: using R.* (Secon. edt.), Springer-Verlag, Berlin, Heidelberg, 2008, 393 p.

[4] V. Stakėnas, *Probability theory and Mathematical Statistics* (handouts), 2012, 178p. , http://www.statistika.mif.vu.lt/atsisiuntimui/statistika/

5 Appendix A

Program text can be given by using `\verbatim` command:

```
R or Python program text.
```