

**Zeppelin Universität**

Institute for Entrepreneurship & Finance

**A Minimal Working Example for a  
Bachelor Thesis**

Bachelor of Arts

in

Corporate Management & Economics

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# **1 Abstract**

Here comes the English abstract!

## **Kurzzusammenfassung**

Hier kommt das deutsche Abstrakt hin!

## 2 Introduction

BURN AFTER READING.

I.e., everything that follows can be deleted up until the command 'printbibliography'.

### 2.1 Minimal Working Example Citation

A usual citation looks like this (R Core Team 2016). Whereas, a direct citation looks like this: Hlavac (2015) approves (hopefully). The bibliography is compiled automatically using the bib-file (in this case called 'bib\_file.bib'). To add additional sources add the bibtex code for the sources into the bib-file. More information about citation can be found in this Wikibook (click me), just make sure that you use biblatex and not bibtex (there is a difference!).

The code for the bib\_file can be also obtained from scholar.google.com, i.e., search for 'Modigliani Miller 1958' (result of the search (click me)) and then click on 'cite' and then 'BibTeX' (in this case biblatex and bibtex behave the same), which results in this

```
@article{modigliani1958cost,  
  title={The cost of capital, corporation finance and the theory of investment},  
  author={Modigliani, Franco and Miller, Merton H},  
  journal={The American economic review},  
  volume={48},  
  number={3},  
  pages={261--297},  
  year={1958},  
  publisher={JSTOR}  
}
```

that can be directly copied to the bib\_file (though you might want to change the key from 'modigliani1958cost' to 'Modigliani1958' or something like this, just make sure that you refer to the right key!).

To compile the document with the citations you need to compile it using 'PdfLaTeX - BibTex(biber) - (2x) PdfLaTeX' (or you can change that in the 'quick-build' option in the Options). Make sure that you have biber installed and working. If it's not working check these options out (using Texmaker): Go to 'Options' → 'Configure Texmaker' → 'Commands' → edit the field 'Bib(la)tex' to:

- MAC: biber %.bcf  
If not working check this SO-question ([click me](#))
- Win: "C:/Program Files (x86)/MiKTeX 2.9/miktex/bin/biber.exe" %  
Or wherever your miktex is installed. If this is not working check this SO-question ([click me](#)))

For the sake of completeness I also cite a book by Wilkinson (2006), an article by two Modigliani and Miller (1958), as well as another article by three Johnson et al. (2000). Last tip, if it shows up like this **UnknownKey2000** that means the key for the citation is not found!

## 2.2 Minimal Working Example Pictures

Pictures look like this (caption above, description below, centered image, relative size to text may vary depending on your needs). If you have questions refer to this Wikibook ([click me](#))



Figure 1: Image captions go below the image (usually)  
Some more information if necessary.

## 2.3 Minimal Working Example Math

A math equation is centered and numbered which looks like this:

$$a = \sqrt{b^2 + c^2}. \tag{1}$$

If possible align equations (if you use multiple equations per equation-float):

$$\begin{aligned} a &= \sqrt{b^2 + c^2} \\ b &= \sqrt{a^2 - b^2} + 100 - 100 \end{aligned} \tag{2}$$

There is the possibility of having inline-math which looks like this  $\lambda = 1 - x$ , but refrain from abusing it to look like this:  $\mu = \sum_{i=1}^n \frac{x}{n}$  (inline).

For more information regarding math in L<sup>A</sup>T<sub>E</sub>X, please refer to this Wikibook (click me)

## 2.4 Minimal Working Example Tables

Tables should be saved in a separate file to keep the source-file (i.e., the document that you compile) tidy.

A table looks like Table 1 (keep in mind that L<sup>A</sup>T<sub>E</sub>X decides for you where to put the table, you can specify parameters such as '[h!]' ('h' for here, 'b' for bottom of the page, 't' for top, and 'p' for appendix. An '!' adds weight to a single parameter; you can also chain commands such as '[htbp]'. Because of pushing-around, make sure that you use references as described in subsection 2.5).

Regression results should be exported automatically, i.e., using the r-packages stargazer, texreg, xtable or some other alternative. The code to produce the table shown, is in the appendix in section 3.

Table 1: Table captions go above the table (usually)

	<i>Dependent variable:</i>
	price
carat	10,615.500*** (63.807)
depth	−156.624*** (5.377)
x	−1,369.670*** (43.477)
y	97.596*** (25.765)
z	64.195 (44.750)
Constant	12,196.690*** (367.643)
Observations	53,940
R <sup>2</sup>	0.856
Adjusted R <sup>2</sup>	0.856
Residual Std. Error	1,512.175 (df = 53934)
F Statistic	64,298.140*** (df = 5; 53934)
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01

Additional Information can be supplied here in the form of free text! If you want to have the same width as the table, include a row in the table itself!

For more information regarding tables in L<sup>A</sup>T<sub>E</sub>X, please refer to this Wikibook (click me). If you have a long table, use the longtable latex-package!

## 2.5 Referencing Examples

If possible, use the power of  $\text{\LaTeX}$  to automatically reference. I.e., to refer to subsection 2.3 (the Maths subsection) or to Table 1 (in Texmaker you see red boxes around the links, these disappear in the PDF-print, if you want to disable them at all, include the '[hidelinks]' parameter to the usepackage-hyperref-command in the preamble in line 16).



## References

- Hlavac, Marek (2015). *stargazer: Well-Formatted Regression and Summary Statistics Tables*. R package version 5.2. Harvard University. Cambridge, USA. URL: <http://CRAN.R-project.org/package=stargazer>.
- Johnson, Simon et al. (2000). “Corporate governance in the Asian financial crisis”. In: *Journal of financial Economics* 58.1, pp. 141–186.
- Modigliani, Franco and Merton H Miller (1958). “The cost of capital, corporation finance and the theory of investment”. In: *The American economic review* 48.3, pp. 261–297.
- R Core Team (2016). *R: A Language and Environment for Statistical Computing*. R Foundation for Statistical Computing. URL: [https://cran.r-project.org/web/packages/available\\_packages\\_by\\_date.html](https://cran.r-project.org/web/packages/available_packages_by_date.html).
- Wilkinson, Leland (2006). *The Grammar of Graphics*. Springer Science & Business Media.

### 3 Appendix: R-Code to create the tables

```
library(stargazer)
library(ggplot2) # for the data only

# create a regression
reg_result <- lm(data = diamonds, price ~ carat + depth + x + y + z)

# save the result to a tex file using stargazer
stargazer(reg_result, float = F, out = "reg_result.tex")

# make sure to either copy the file to tables/ or insert the path directly
# a direct path could look like this
# out = "C:/Documents/myWork/paper/tables/reg_result.tex"
```

## Eidesstattliche Erklärung

Hiermit erkläre ich, dass die vorliegende Arbeit in Übereinstimmung mit den Universitätsrichtlinien erstellt wurde und nicht in gleicher oder ähnlicher Fassung Bestandteil einer anderen Studien- oder Prüfungsleistung ist. Die Arbeit wurde mit keinen anderen als den angegebenen Quellen und Hilfsmitteln verfasst. Sollten Teile der Arbeit in Zusammenarbeit oder mit fremder Hilfe erstellt worden sein, so ist dies ausreichend gekennzeichnet. Die in der Arbeit vertretenden Meinungen sind die des Autors.

## Author's Declaration

I hereby declare that the work in this dissertation was carried out in accordance with the requirements of the university's regulations and that it has not been submitted for any other academic award. Except where indicated by specific references in the text, the work is the candidate's own work. Work done in collaboration with, or with the assistance of others, is indicated as such. Any views expressed in the dissertation are those of the author.

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Ort, Datum

Place, Date

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Signature of the author