Introduction to Overleaf

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1 First Caption

Now you can start writing. Overleaf is not a what you see is what you do software like Google docs, but more similar to the logic of R. We give the software input and it processes it to a nicely looking pdf.

To get the pdf document, click on *recompile*. Then you can download your pdf by clicking on the **download symbol** right next to the green recompile button.

1.1 Subsection

You can create a stratified section structure by simply using \subsection. Note the "\" always indicates that we want to write a command.

If you try to compile a text, that includes some errors, meaning you miss some information or used the wrong syntax than you will see a redly marked number next

to the recompile button. Often errors can be neglected and have no impact on the compiled pdf. But some errors are serious and cannot be neglected. You will know when you encounter such an error, but don't worry there is no error where no solution exists.

Reasons for errors:

1. Syntax error. You either have a tipping error or unclosed bracket.

2. You are missing a package. Sometimes you find a command online but you cannot use it without loading a certain package

3. Overleaf, has also sometimes certain signs assigned to own a certain function. For example the "&" sign cannot be used without marking it with the backward slash. Such signs are also % and $

4. Storing graphs and tables in folders can lead quickly to confusion. To keep your workspace tidy it is advisable to create folders in the left bar (similar to the environment window in R). But like accessing or storing your data from R on your laptop required a specific part, analogously it is with overleaf. Sometimes if you shift or generate a folder but forget to adapt the path code in you includegraphics[] you will not be able to display the graphs.

2 Graphs

To include graphs we need a new command. There are several ways, but my preferred way is the *includegraphics*.

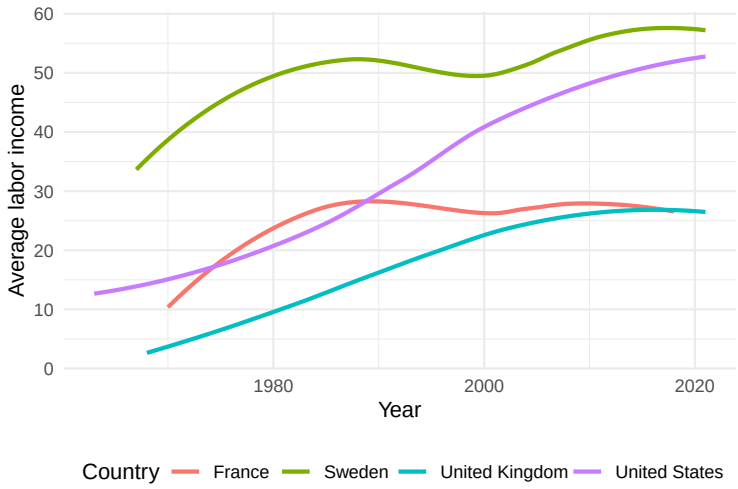

Figure 1: Caption

There are different ways to embed graphics into your overleaf document, but the documentation online is usually pretty helpful. And in case, Chatgpt knows Overleaf as well..

3 Math

To write mathematical expressions, you have multiple options. The first option is to use the command *begin*{*equation*}

$$\hat{y} = \alpha + \beta \cdot x_i - \epsilon \tag{1}$$

This approach is nice since your equations are immediately numerated.

Another approach is to use the $-sign. In between two $ signs you can write mathematical terms as well: $\bar{x} = \frac{1}{N}\sum_{i=1}^{n} x_i$. This embedds the mathematical terms immediately into the sentence. If you want to highlight your equations more explicitly than use two $ signs immediately next to each other and then your equation will be displayed centered and standing alone in the line.

$$\bar{x} = \frac{1}{N}\sum_{i=1}^{n} x_i$$

3.1 Tables

Text and graphics are nice, but showing numbers can be an important part of your work too. Mostly you will present numbers in a table. For that purpose we use the following:

1	2
3	4

Table 1: Caption

Most software have options to export the results into overleaf. For example in Unit 4 we use the *stargazer package* with which we get an output that we can copy paste into an overleaf file. To keep things tidy I would recommend to create a new file, named with the regression title and include that file into your main document.

Below you can find an example, how R gave me the regression output:

Figure 2: Regression Results

	Dependent Variable: Homoploutia		
	Sweden	France	UK
K Share	0.974***	0.266	-0.188
	(0.270)	(0.173)	(0.213)
Ratio L Top 10	1.415***	0.311*	0.118***
	(0.412)	(0.152)	(0.042)
Ratio K Top 10	0.136**	-0.098***	0.137***
	(0.053)	(0.022)	(0.041)
Constant	-0.424***	0.149**	0.025
	(0.130)	(0.055)	(0.040)
Observations	28	28	53
R^2	0.715	0.720	0.505
Adjusted R^2	0.679	0.685	0.474
F Statistic	20.067	20.613	16.635

4 Citation

Citing correctly can eat up a lot of time. One of the main reason I love Overleaf is its handy citation options. As soon as you have created a file[1] you can add sources. I can recommend to copy from google scholar immediately the bibtex format and paste it into your bib file. If you have done that + added the bibliography with \addbibresourcebib.bib you can start citing.

[1]I name mine always bib.bib. The .bib ending is crucial to let Overleaf know that this is the bibliography file!

Citing after a sentence:

My favorite paper currently discusses advances in the DiD estimation (de Chaisemartin et al., 2022)

Citing within a sentence:

My favorite econometricians, de Chaisemartin et al. (2022) produce many new DiD papers.

References

de Chaisemartin, C., d'Haultfoeuille, X., Pasquier, F., & Vazquez-Bare, G. (2022). Difference-in-differences estimators for treatments continuously distributed at every period. *arXiv preprint arXiv:2201.06898*.