Title of your project

Your name(s) 1
Your name(s) 2
Your name(s) 3

Supervisor: Supervisor's name

Submitted in partial fulfilment for the fourth semester project

Spring 2020

The Department of Business and Management

Aalborg University

Acknowledgements

I just want to thank my chicken for not eating my corn while i wrote this project, and my dog for not eating the project when I was done.

Contents

Header for section

Name 1

Supervisor: Supervisor name

The Department of Business and Management

Aalborg University

1.1 Introduction to supervision

This is an introduction text that outlines that I will be your supervisor for your project for 4. semester.

As (I hope) you can see from this text, my first language is English. So anyone that wants to work on their English writing, or just get more exposure to economics in English it might be a good opportunity for you – If you want to work outside of the country or in most multinationals here in DK it is typically a requirement (Danmarks Nationalbank included). You will not be assessed on your grammar, but you will need to make sense and write in a professional manner.

If you would prefer to work in Danish, you are of course welcome to.

To get the most out of the supervision I recommend that in addition to the introductory meeting, 3 group meetings should be sufficient.

0. **Introductory metting:** We will go through literature search and a few useful tools for writing in a collaborative project.
1. **Meeting 1:** You need to have worked on and bring a complete problem statement (see the guide and tips below), we will discuss it in the first meeting.
2. **Meeting 2:** The literature review, and expected method should be done, and any data or materials you plan to use should be collected. We will go through your planned method and argumentation in the meeting.
3. **Meeting 3:** The analysis should be complete and you should have some working points for your discussion / conclusions. We will go through your arguments verbally, and I will probe any major gaps I see in your thinking.

1.2 Guidelines for supervision:

1. Any team member can communicate with me via Teams on behalf of your group. I expect that all communication has been discussed an agreed upon.
2. Just as you can expect me to read and provide comments on the days of meetings, I expect you to respect the deadlines you choose.

3. If you want something read before the meeting, it must be sent to me at least 2 working days before the meeting, I.e. Midnight Thursday for a Monday meeting. (Max 10 pages per meeting)
4. I will read and comment generally on the work, but will not make decisions for you. Your ability to choose and apply the correct methods is part of what you will be assessed on.
5. Each meeting is planned for one hour. I recommend that all groups have their first meeting with me**before 16thMarch**.
6. For every meeting you should bring with:
    a. Your problem statement (as it evolves with your work).
    b. A list of literature that you have covered up to that point (only the literature you have already read).
    c. The date by which you will be ready for the next meeting.

1.3 Examinations:

You can write and be examined in Danish or English. If you choose Danish, it might be the case that one of our Danish speaking staff will join in the examination, 1x external examiner + me + possibly 1x Danish AAU examiner. This will depend on Departmental resources, but you will not be disadvantaged in any way because of any limitations that I might have with the Danish language.

1.4 Leave periods (absenteeism):

I will be away from Aalborg for the following periods:

1. 26thMarch 2020 to the 29th March 2020. (Copenhagen)
2. 04th April 2020 to the 17th April 2020. (South Africa)

1.5 Rough guide to project structures

This is a**very rough**guide to writing a project. It is intended to give you a very basic idea of what to include in a good project.

In terms of pages, each group will know how many people they have, the official **maximum number of pages** (by character count, 2400 key-strokes including spaces) are:

1 person: 15 pages

2 People: 25 pages

3 people: 35 pages

4 people: 40pages

Filling the pages is not the goal, and you will not be given a higher grade for filling all of your allocated pages with pointless text. You will also not be penalised if you can get your message across clearly in fewer pages. Keep in mind, that the average journal article is roughly 15 – 25 double spaced pages (around 8000 words).

You only need to address **one** problem, and to do it as well as possible.

The written project is intended**to communicate**that you have done your homework on your subject. This means that as a student you should be able to demonstrate that you:

1. Can identify an economic problem (or gap in the literature) that you think needs to be addressed (and why?!).
2. Can find, read and understand literature about the problem, and how others have dealt with it (reading and organising literature).
3. Can find the relevant information or data that you need to assess the problem, and that you know what to do with it when you do find it (number 2 helps with this) (data and methods).
4. Can present your findings in a well written document, where you give credit to all the authors that helped you to understand the problem (references).
5. If you make a statement, you either need to back it up with your own evidence, or someone else's.

Compressing all of that into 8000 words is much more challenging than filling 40 pages with unnecessary text and graphics. It also requires much more

cooperation on and discussion of what needs to go into those pages to make them as effective as possible.

A good group member is one that can read a piece of writing critically, and give constructive feedback – to do this effectively is necessary for all group members to be clear about the "red thread" in the project (the "why").

I would personally prefer that you write about 15 pages of really good work, than 40 pages of low quality work.

For a journal article size paper these are some rough guidelines:

The share of pages between the sections depends on how much space you*need*. I say*need*, because people reading your work want to get the clearest message, in as few words as possible. A (very) rough guide as to how many (academic) references each section could have is included in red text.

1. Abstract (+-150 words)
2. Introduction (0.75 – 1.25 pages) (Motivation, justification, explanation of why?(4 – 5 references))
3. Literature / theory (1.5 – 3 pages, depending on how theoretical your paper is) (Demonstrate reading –(6 – 12 references))
4. Method (0.75 – 3 pages, depending on how complex the explanation needs to be) (Justify choice, explain details(4 – 5 references))
5. Results (1 – 3 pages) (Presentation of results (2 – 5 references))
6. Discussion (2 – 5 pages) (Interpretations, comparisons, perspectives(4 – 5 references))
7. Conclusion (1 page) (Link discussion to introduction(No new references))

(The max pages in this example is 16.5 pages – it is just an example, and the split between the sections will change depending on the type of research.)

(Min references in this example is 20, but this is on the high side. You won't have time to read as much as that. 8 – 15 references in total should be enough if you find some really good ones.)

Keep it simple! That is the best advice I ever got... and the hardest to follow, because you really need to be sure of what you're talking about to write clearly

and simply.

1.6 Rough guide to writing a problem statement

Coming up with a good question does not mean coming up with a question that will change the world. It means coming up with a question that you can answer **in the time you are allowed**, and**with the tools you have (or have time to learn)**.

A note on how to get started with your problem selection – try to be curious. It is going to take some active effort.

Most of you have identified an area of interest, rather than any specific question. These are just a few pointers to help you to identify a good problem.

- If you want to read a pretty good "how-to" guide, try this one:https://www.wikihow.com/Write-a-Problem-Statement

You need to actively apply yourselves to *finding* a question:

1.6.1 Step 1: Brainstorm:

- Find a meeting room and mind-map an area of economics that you are interested in.
- A very high level overview of the courses (like the table of contents in your text books) you have done so far should help you to understand the tools that you have, which you can use to answer whatever question you end up asking.
  - Some of these tools will be theories, models, data types and sources. The learning outcomes of your courses are also a good guide (check Moodle).
- If you really want to be active in your search for problems, and deal with real life issues – pick up a phone and make some calls to people in the area or industry you want to look at. These kinds of discussion can be really motivating and insightful.

As a group you can really benefit by getting ideas and input from each other. This does not need to take a long time but does require effort.

Don't get caught up by not deciding what to do – get into a room, set a time frame and get finished with the choice early.

1.6.2 Step 2: Getting that problem statement clear

Where to start?

Read.

1.6.3 Using the the introduction as the route to the problem statement

A good introduction leads to a good problem statement, but this is only possible if you have some good material to work with.

1.6.3.1 Example flow of a good introduction:

1. You could list some shocking figures or numbers that highlight that there is some area / issue that we should be concerned about. It could also be some clear contradiction or controversy in the literature that needs clarification - but this requires some careful reading.

   (This defines the problem area that you want to address - normally these are the effects of some other problem that can be identified.)

2. You could then explain that some people see (explain) these facts/figures from the perspective of A / B / C ... and conclude that X / Y / Z. Another group of researchers suggest that there may be another way to interpret these figures.. they say... etc.

   (This highlights existing theories in the literature - these could be conflicting explanations for the effects that are observed by different researchers. Always remember that research can have a particular agenda, i.e. to promote efficiency of markets, or to critique main-stream literature - so be a little critical when reading. Every researcher is trying to sell their ideas.)

3. Next, you could explain that 'these' different approaches suggest that this problem could be investigated by doing E/F/G.

   (Identification of possible ways of addressing the issue - There are a variety of quantitative and qualitative methods, and some people

rely more on some than on others. This section should still be able to refer to how other people have addressed the issue. Here is where you narrow down what might be a good way to look at the problem.)

4. More specifically, therefore, we want to investigate how / if / what the effects of / etc.

   (By this stage you should be able to be specific about the exact part of the problem that you are interested in addressing, and all of the arguments for why it is interesting should already have been made.)

1.6.4 Some general notes about writing a problem statement

The general structure of questions in most economic analyses is:

> What is, has been, or will be the impact of **A** on **B**?

1.6.4.1 Where do you find a problem in macroeconomics?

Many economic queries attempt to measure social consequences, and most often try to assign a financial value to those consequences. Sometimes this is phrased as a "comparative outcome" or "alternative scenario". Normally this means that one option is *better* than another. This is not surprising, since pretty much all macroeconomic variables are aggregated financial values or derivatives thereof.

`Other ways to frame a question could be:`

1. Why is one option better than the other? How can you tell?
2. How does a change in X affect income for the economy / households / teachers?

- How many people are employed?
- Labour productivity?
- How is the standard of living affected?

These are justification options (evidence) to motivate *why* an investigation is a good idea. Just remember that you need to be able to find the evidence to back up your arguments. As noted in the example of an introduction flow above, your selection of a method should be the logical conclusion of your reading.

1.6.5 Answering the *Why?*

Why is it that investigating this problem will be beneficial? To answer the question generally requires awareness of:

1. What?
2. When?
3. Where?
4. Who?
5. In what way?
6. How?

These things are the specifics of the problem statement, but they will not provide you with the answer to why it is important.

The best place to find an answer to *why?* is to read some of the most recent work on the topic you have found. Anything that has been published has been read and edited by at least 5 people by the time it goes to a journal. The arguments in those articles should therefore be pretty reasonable.

Once you understand your *why?* you can start with the specifics

1.6.5.1 What?

For example: If you chose to research currency markets some of the sub-categories could be (What?):

- `Trading platforms`
- `Exchange rate policies`
- `Regulations`
- `Common currency areas`
- `Clearing and Settlement systems`
- `Speculation`
- `Risk-mitigation / hedging`

This delimitation is often determined by the problem area that you identify. Normally illustrated by something interesting or concerning, which leads you to think that investigating the area might be interesting.

If you move into academic writing (i.e. for journals) you can go the other way around, and check what has been written about recently or is currently being funded at the EU or national levels. Read some of the latest literature relating to it and then identify if there is a similar problem in an area that has not yet been investigated.

1.6.5.2 When?

You need to be carefully aware of what time period you choose to investigate, as it has direct consequences for the types of conclusions you can make from your analysis. If you look at 1950 -1970 consumption data, you can't really say anything intelligent about the use of disposable income in 2020.

Historical analysis is crucial in economics, but you should always be aware of how the structure of the economies of the world have shifted over time.

Education rates, the type of institutions that exist, levels of unemployment, the size of government, etc.

A trendy catch phrase for this kind of context is PESTLE, an anagram for how the context of countries change: 1. Political 2. Economic 3. Social 4. Technological 5. Legal 6. Environmental

Please don't write this list out and do a PESTLE analysis in your projects, it is just to tell you that there are many changes that take place over time. And that you need to think specifically about time in your problem statement.

1.6.5.3 Where?

This is quite obvious, but is not only related to geographical borders. For example, a study could be:

- National
- Municipal
- Regional

- Global

1.6.5.4 Who?

Which groups are involved in your project, and who is it that will be interested in reading the results of your research? Who will the research / problem investigation be useful or interesting for.

- Demographic specific (Ex., students, low-income families, employees at publ

- Institution specific

- Industry specific

- Country specific

1.6.5.5 In what way?

You also need to know what kind of impact or relationship you are looking for. Is it, *how much of the behaviour of A can be explained by B*? Is it a *theoretical or empirical issue* or are you interested in *How much influence will A have on B? Or vice versa, or both*?

1.6.5.6 How?

Finally you need to be able to explain how you are going to investigate the problem. You should consider your tools and your course on methodology (and theory of science) to be able to figure out how will you answer the question.

Recall that methodology is layered: >Philosophy of science -> Methodology -> Theory -> Methods

Methods are at the bottom of the pyramid, and can be quantitative or qualitative, or a combination of both. It is important to be aware of what you are doing, and using. They are normally used to motivate one or another theory.

The philosophy of science defines what kind of results will be considered valid. For example, is it valid to make a conclusion about the future based on the past (i.e. to use data to make predictions)?

Some examples of this are: 1. Cartesian / Euclidian theories of science 2. The Babylonian mode of thinking

Theories use methods, methods are part of a particular methodology, and the methodology is made valid by the theory of science inside which it fits.

1.7 Stay aware of your time limitations

Be aware of the time you have left to do the research. Data / information collection and organisation takes time, and you need to get started on it early if you want to be able to say anything useful by the time you finish writing your project up.

A brief guide:

1. Problem identification and reading: 1 week
2. Write literature review: 1 week
3. Write first draft of introduction: 2 days
4. Data collection: 1 week
5. Write method and methodology section: 3 days
6. Data cleaning and analysis: 2 weeks
7. Write results: 1 week
8. Write conclusion: 2 days
9. Re-write introduction: 2 days
10. Check document for references and errors: 1 day

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Header for section

Name 1

Supervisor: Supervisor name

The Department of Business and Management

Aalborg University

2.9 First section

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The standard command will just generate a number, like this : 1.8

You can also use the command created in the “ProjectBuilder” to customise your references.

This command includes the word “Section” before the reference: Section 1.8

You can do the same for figures and tables. If you label them correctly, then they will automatically be added to the list of tables and figures at the end of the document.

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2.10.1 A third level heading

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2.10.2 A second level 3 heading

This section contains some fancy equations these can be entered in a couple of ways, but the LaTeX version is probably the most adaptable and consitent. in text you can just type something in single $ marks, and it will stay in line, $y = \beta_0 + \beta_1 ln(x^2) + \frac{ac}{x_1^2}$.

Or you can type it in double $$ marks and it will float the equation in the middle of the page with white space around it.

$$y = \beta_0 + \beta_1 ln(x^2) + \frac{ac}{x_1^2}$$

If you want to get really fancy and to be able to reference your equations automatically, you can also add a label, but this is easier to do in the LaTeX version.

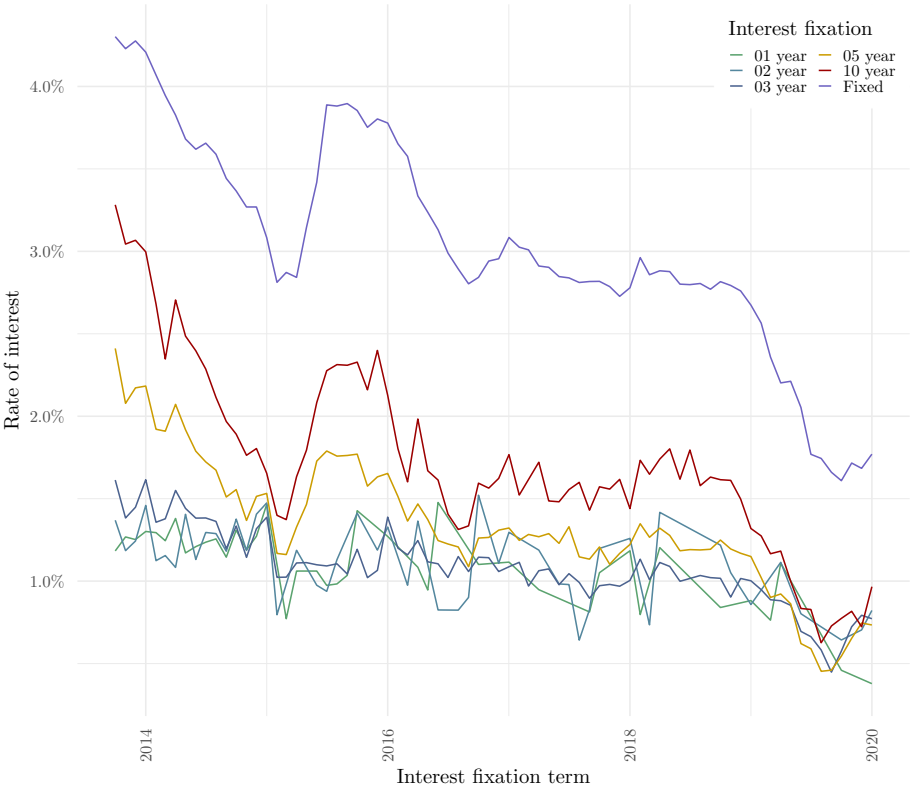
$$y = \beta_0 + \beta_1 ln(x^2) + \frac{ac}{x_1^2} \tag{2.1}$$

This version allows you to do a reference to Equation (2.1) in your text. If you look at the code, you will see that there are no section numbers or equation numbers "hard coded" into the text. If I add another equation above this one, it will just adust the numbering automatically.

The strucutre of the numbering of different elements is set in the `YAML` of the "ProjectBuilder". There you will find code that looks like this `\counterwithin{table}{section}` - this means, that every time a level 1 section is started, the counter for tables will start from 1 again.

2.11 For inserting images

you might also want to do some R analysis in your document and then output the results in the text!



Source: Statistics Denmark (Danmarks Statistik), own calculations

List of Figures

List of Tables

References

Andersen, A. L., Duus, C., & Jensen, T. L. (2016). Household debt and spending during the financial crisis: Evidence from Danish micro data. *European Economic Review*, *89*, 96–115. Retrieved from http://linkinghub.elsevier.com/retrieve/pii/S0014292116301106

Brown, M., & Graf, R. (2013). Financial Literacy, Household Investment and Household Debt: Evidence from Switzerland. *Working Papers on Finance*. Retrieved from http://www1.vwa.unisg.ch/RePEc/usg/sfwpfi/WPF-1301.pdf

Justiniano, A., Primiceri, G., & Tambalotti, A. (2015). Household leveraging and deleveraging. *Review of Economic Dynamics*, *18*(1), 3–20.

Walks, A. (2013). Mapping the Urban Debtscape: The Geography of Household Debt in Canadian Cities. *Urban Geography*, *34*(2), 153–187. Routledge.

Zinman, J. (2015). Household Debt: Facts, Puzzles, Theories, and Policies. *Annual Review of Economics*, *7*(1), 251–276. Annual Reviews. Retrieved from http://www.annualreviews.org/doi/10.1146/annurev-economics-080614-115640