

Scientific writing

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Overview

Intro

- 1. Intro
- 2. Reading papers
- 3. Your topic
- 4. Literature (re-)search
- 5. Exposé
- 6. Term paper
- 6.1 Intro
- 6.2 Discussion
- 7. Style
- 8. References

•00

Introduction

Goals of a term paper

- Learn about a specific subject
- ► Learn how to write a good term paper
 - ► Formally correct scientific writing
 - ► Report on existing research
 - Broad literature survey
 - (Critical survey of one paper
 - ► Describe it structurally & evaluate critically the study/methods/findings
 - ▶ Define new research questions and shows prospective avenues for research

How to start?

Often, you have one or two seminal papers that you can start with:

- Read the main papers in detail!
- ► What are the main statements?
- Which one(s) do you want to analyze?

But how to read empirical papers? ...

Reading papers

References

References 000000000

How to read empirical papers?

Typical paper structures

- ► Introduction
- ► Model & theory
- Data
- Empirical strategy
- Results
- Conclusion

- ► Introduction
- ► Model & theory
- Data
- Empirical strategy
- Results
- Robustness checks
- Conclusion

- Introduction
- Model & theory
- Data sources
- Context of data
- Summary statistics
- Empirical strategy
- Main results
- Other results
- Robustness checks
- Conclusion

Grasp main information

Read a paper to answer 4 questions:

- 1. What is the main research question?
- 2. What is the main result?
- 3. What is the identification strategy / method?
- 4. What is the data used?

Grasp main information

Skim paper in 5 minutes

- 1. What is the main research question?
 - ⇒ Read abstract
- 2. What is the main result?
 - ⇒ Find main table or graph (section: results) outcome and treatment variable
- 3. What is the identification strategy / method?
 - ⇒ Find keywords, such as "randomized experiment", "IV", etc. (section: empirical strategy)

Stop? Or do you want to know more details?

Continue reading

- 4. What are the data used?
 - Data sources? Institutional context?
 - ► How large are the effects in this context?
 - Summary statistics table (section: data)
- 5. Are you convinced that the main finding is correct?
 - (section: robustness checks)
- 6. What is the general context?
 - ► (sections: Introduction & conclusion)
- 7. What is the theory?
 - ► How are people behaving? How are policies working?
 - ► (section: Theory and "literature")

Defining your topic

Intro

- Develop your research objective
 - "What do you want to do in the paper?"
- Develop your research question
 - "Which question(s) do you want to answer?"

Defining your topic

Intro

- 1. I analyze...
- 2. Because I want to show...
- 3. In order to...

Defining your topic

- 1. I analyze...
 - the relation of decentralization and deforestation
- 2. Because I want to show...
 - that shifting responsibilities to the local administrations increases the likelihood of corrupt activities in the forestry sector
- 3. In order to...
 - raise attention of the potential negative environmental effects during the transition of political systems

Literature search

Where to find research literature (some)

- ► Have a look at the cited papers in the preliminary / main literature
- Search in Journals
- Search via research databases
 - UTD library
 - Ebscohost
 - ScienceDirect
 - ► JSTOR
 - ► GoogleScholar for more experienced researchers
 - **.**..

What are good and reliable sources?

- ► Books?
- ► Journal articles?
- ► Blogs?
- ► Newspaper articles?
- ► Working papers...?

Know the top jouranls in your field!

Rankings in Economics:

- SCImago Journal Rank (SJR)
- ► Tinbergen list (often used in the EU)
- ► IDEAS/REPEc
- See journal.ranking.xlsx on eLearning!

The big 5+ journals of economics

- ► American Economic Review (AER)
- Econometrica
- Quarterly Journal of Economics (QJE)
- ► Journal of Political Economy (JPE)
- Review of Economic Studies (Rev Econ Stat)

Other top general economics journals

My personal choice

- American Economic Journal: Applied Economics
- ► Review of Economics and Statistics
- American Economic Journal: Economic Policy
- ▶ Journal of the European Economic Association
- Journal of Public Economics
- Economic Journal
- ► Journal of Economic Literature

Environmental Economics journals

My personal choice

- ► Review of Environmental Economics and Policy (REEP)
- ▶ Journal of the Association of Environmental and Resource Economists (JARE)
- ▶ Journal of Environmental Economics and Management (JEEM)
- ► World Development (WD)
- ► American Journal of Agricultural Economics (AJAE)
- Ecological Economics (EE)

Development economics

My personal choice

- ► World Bank Economic Review
- ► Journal of Development Economics
- World Development
- ► Journal of Development Studies
- ► Journal of Conflict Resolution
- ► Journal of Health Economics

Interdisciplinary journals

(some repeated)

- Science
- Nature
- Proceedings of the National Academy of Sciences (PNAS)
- ► PLOS One
- American Journal of Agricultural Economics
- Land Use Policy
- ► World Development
- Land Economics
- Ecological Economics

Remotes Sensing journals

Intro

- ► Remote Sensing of Environment
- ▶ Do you know some?

Good working papers

- ▶ NBER Working Papers (National Bureau of Economic Research)
- ► CEPR Working Papers (Center for Economic Policy Research)
- ► IZA Discussion Paper Series
- ▶ Working Papers of the IMF, ECB, World Bank(?), etc.
- Working Paper series of good universities

Literature research

Selection of relevant and adequate papers

Iteratively read and reread the papers with growing attention to detail!

Selection of relevant and adequate papers

First reading: be quick:

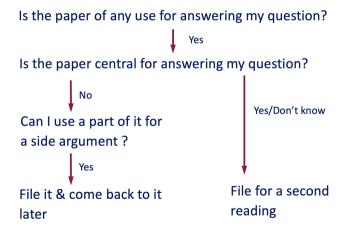
► Title

Intro

Abstract

Selection of relevant and adequate papers

After first reading: decide:



Organize your literature

- Use a reliable filing system!
- ▶ Do not lose ideas or references!
- ► Save all quotes, papers, sources
- Use bibliographic software (citavi, jabref,...)

<u>Author</u>	<u>Title /</u> <u>reference</u>	Research Question	Intervention/ Model	<u>Where</u>	<u>Data</u>	Estimation strategy	Estimation Equation	potential ceavats	Results

- ► I strongly recommend using Latex/Overleaf.com + Jabref
- ► Would you like an introduction to Overleaf.com + Jabref?

Exposé / Proposal

References

What is an exposé?

Why do we need it?

Content

Intro

- ▶ What is your exact research question?
- State the problem you are facing
- ▶ Why is it relevant? Motivate!
- ► How are you going to proceed?
- ⇒ "Preview of what the term paper is about."

Content Exposé

Research design proposal

- 1st page: Introduction
- ▶ 2nd page: Data & Empirical approach
- ▶ 3rd page: Outline
- ► 4th page: List of references

Bibliography essay

- ► 1st page: Introduction
- ▶ 2nd page: Primary literature (3–4)
- ▶ 3rd page: Outline
- ► 4th page: List of references

Formality

Intro

- ► 1st page includes:
 - ► Top Left: Course name, Professor name
 - ► Top right: Student name, 'Exposé', Date
 - ► Title
- See also guideline "w00_guidline-writing.pdf"

Content of the introduction

- ► State the problem you are facing
- ► Why is it relevant?
- ▶ What is your research question, exactly?
- ► How are you going to proceed?

Data & empirical approach

- ▶ Describe the data that you (could) use your proposed research design
 - What is the unit of analysis?
 - Focus on outcome and main explanatory variable (e.g., policy intervention)
 - What is the data source
 - How are the variables operationalized?
- Formulate your empirical approach
 - Describe your identification strategy, i.e., why is it measuring (potentially) measuring a causal identification
 - Write out your main estimation equation
 - Describe the equation in detail

Primary literature

Intro

- ► Choose 3–4 main papers
- Why are they interesting?
- ► What are they contrasting in?
- ▶ How are these a good start for the literature overview?

Outline (examples)

Research design proposal

- 1. Introduction
- 2. (Context &) theoretical framework (/Literature overview)
 - The context of X
 - Policy Y
 - Hypotheses
- 3. Data
- 4. Empirical approach
- 5. Expected results
- 6. Conclusion

Bibliography essay

- 1. Introduction
- Overview of different theories of the resource course
- 3. Oil abundance corrupts
- Interpretation of results and political implications
- 5. Conclusion

References

... and of course, your references, nicely formatted (more later)

References

- Caselli, F. and Michaels, G. (2013). Do Oil Windfalls Improve Living Standards? Evidence From Brazil. American Economic Journal: Applied Economics, 5(1):508-538.
- Corden, W. M. and Neary, J. P. (1982). Booming Sector and De-Industrialisation in a Small Open Economy. The Economic Journal, 92(368):825–48.
- Krugman, P. (1987). The Narrow Moving Band, the Dutch Disease, and the Competitive Consequences of Mrs. Thatcher. Journal of Development Economics, 27:41–55.
- Leite, C. and Weidmann, J. (1999). Does Mother Nature Corrupt? Natural Resources, Corruption, and Economic Growth. IMF Working Paper, 99(85):1–34. New York
- Mehlum, H., Moene, K., and Torvik, R. (2006). Institutions and the Resource Curse. The Economic Journal, 116:1–20.
- Robinson, J. A., Torvik, R., and Verdier, T. (2006). Political Foundations of the Resource Curse. Journal of Development Economics, 79:447–68.
- Sachs, J. D. and Warner, A. M. (1995). Natural Resource Abundance and Economic Growth. National Bureau of Economic Research, (No. 5398). Cambridge, MA
- Tornell, A. and Lane, P. R. (1999). The Voracity Effect. The American Economic Review, 89(1):22-46.
- Torvik, R. (2001). Natural Resources, Rent Seeking and Welfare. Journal of Development Economics 67:455–70

Intro

Term paper

(Bibliographic essay / Research design proposal)

References

Let's discuss...

Intro

- 1. Introduction
- 2. Main part of the paper
- 3. Discussion
- 4. Conclusion
- 5. References

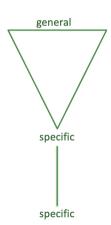
- 6. Structuring arguments
- 7. Style

Intro

- ▶ Why do we need an introduction?
- ▶ What is the content of a good intro?
- ► Does an intro have a structure?
- ► When shall I write the introduction?

Structure of an introduction

- ► Introduction to the topic
- ► General background info
- ► Topic of the paper and its relevance
- ► Short literature review + gap
- ► Research objective / question
- Methodology
- ► Contribution (hint to the results)
- Outline



Content of an introduction

- What is the topic?
- ▶ Why is it relevant?
- What is the research question / objective?
- ▶ How does the paper proceed to answer the question?
- Contribution of the paper
- ► Outline of the structure

Take-off

Intro

Don't know how to start?

Take-off

Intro

You could (/should)...

- ► Formulate the research question
- ► State the aim of the analysis
- ► Tell a story
- Use a quote
- ► Link the topic to a present occasion

Take-off

Formulate the research question:

Is conditionality necessary in conditional cash transfer programs to improve forest conservation or is it actually that only the financial restrictions hinder households to invest in forest-benign land uses so that handing out cash automatically reduces deforestation rates? This is an important question for designing such programs...

Take-off

State the aim of the analysis:

This paper compares the effects of conditional and unconditional cash transfers on deforestation rates in order to improve the design of such programs.

Take-off

Tell a story:

"Chico Mendes was a Brazilian rubber tapper and forest conservation activist defending the human rights of smallholders and indigenous people. On December 22, 1988, he was murdered after receiving death threats from land owners." The story of Chico Mendes shows how forest conservation is embedded into the distribution and enforcement of land rights in the Amazon.

Take-off

Use a quote:

"At first, I thought I was fighting to save rubber trees, then I thought I was fighting to save the Amazon rainforest. Now I realize I am fighting for humanity"

— Chico Mendes

The tragedy of Chico Mendes, a conservation activist who was shot for helping indigenous people defend their traditional land rights, is still emblematic of the insufficient level of law enforcement in the rural parts of the Amazon.

Take-off

Link the topic to a present occasion:

Mexico's Payments for Hydrological Services Program is an environmental conditional cash transfer program to farmers for conserving standing forests on private land. The program was very successful in reducing deforestation rates while it raised the welfare of non-poor households. It is a perfect example that conditional cash transfers cannot fulfill two goals at the same time.

Intro

- ▶ What should be in the main part of the paper?
- ► What is its structure?

Main part Structure

Intro

- ▶ Background information/Framework Theories, definitions, literature review
 - Classification and explanation of the single parts
- Analysis of your paper
- Discussion
 - Bring the unique parts together

Structure - Examples

Research design proposal

- 2. (Context &) theoretical framework (/Literature overview)
 - The context of X
 - Policy Y
 - Hypotheses
- 3. Data
- 4. Empirical approach
- 5. Expected results

Bibliography essay

- Overview of different theories of the resource course
- 3. Oil abundance corrupts
- 4. Interpretation of results and political implications

Intro

Report on literature

- ► Who has done the study?
- ▶ What has been done in the study?
- Where did the study have taken place?
- ▶ Which methods have been used?
- What did they find?

Report on literature (cont.)

Nolte et al. (2013) investigate the effect of protected areas on forest losses in the Brazilian Amazon. Using a spatial matching approach, they conclude that, on average, deforestation rates decrease within protected areas, with higher effects for strictly protected reserves. Likewise, Herrera et al. (2019) study the role of governmental agencies for the efficiency of protected areas; they affirm...

Report on literature (cont.)

- Structure and link them together
- Use conjunctive adverbs like:
 - ► Moreover, additionally, ...
 - Likewise, similarly, also, in the same way. . .
 - ► In contrast to, contrary, compared to, despite. . .
- Use verbs like:
 - Affirm, support, confirm, justify...
 - Rebut, relatives...

Main part in Bibliographic essay

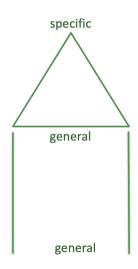
- ► Theoretical framework
- Empirical evidence
- Contrasting theories and/or evidence
 - ► What are strengths and weaknesses?
 - What is the new perspective?
 - What is the research gap?

Main part in Research Design

- Context
 - ► Theoretical framework with a critical literature review
 - Describe the research context
 - ► Introduce and describe the policy intervention
 - ► Make hypothesis (main effect, heterogeneities, potential mechanisms)
- Data
 - Describe data and sources
 - How will the data be operationalized
- Empirical strategy
 - Estimation equation
 - Explain identification strategy
- Expected results
 - Expected results
 - ► Significance of research
 - For research, policymakers, society
 - Timeline with Gantt chart

Discussion

- Summarize the results
- ► Validate your results
- Create a context for your research
 - compare it with other studies
 - explain in the framework of a theory
 - what can we learn out of it
 - external validity
 - Everything taken into account: what is the answer to your research question?
- Outlook



Conclusion

Intro

- ▶ Why do we need a conclusion?
- ▶ What is the content of a good conclusion?
- ► Does a conclusion follow a structure?
- ► When should I write the conclusion?

Conclusion

Structure

Intro

- Short summary of the main results
- ► Importance of the analysis
- ▶ Directly answer the research question
- Future prospects

List of references

Intro

- ► All papers you used & cited
- No additional papers

You will need a perfect 1:1 match between the papers cited in your text



Style

Intro

Build a clear line of arguments!

Tell a story!

The pearl string



Intro

Structure your arguments

Each paragraph should contain a logically self-contained piece of argumentation

- ▶ 1st sentence: Statement
- ► Next few: Argument
- ► Last sentence: Leads over to the next paragraph

Structure your arguments

Example:

- ► Hypothesis: Payments for environmental services affect deforestation rates in various ways.
- ► Argument: First, they relieve the cash constraints of rural farmers, facilitating new investments into potentially forest-benign activities. Secondly, they set up a monitoring mechanism by which the detection probability of illicit activities increases (X et al. XXX). ...
- ► Link: But, it not only changes the incentives of participating farmers, it also changes ...

Structure your arguments

Example (2):

- Hypothesis: On average, migrants are better educated.
- ► Argument: This is because human capital is often the only asset they can take with them when they migrate. Therefore, migrants invest more into human capital accumulation (X et al. 2014).
- ▶ Link: However, causality may also run in the opposite direction as better-educated migrants are more likely to select into the migration stream.

Structure your arguments

Editing trick

- ► Read only the first sentences of each paragraph of the final draft of your paper
- ► Are they still understandable? Do they tell everything you want to tell? Is there a red line of arguments?

Select your audience well

- Avoid being too colloquial
 Do not use expressions of oral speech (e.g., "Don't" "can't")
- Avoid journalist style
 e.g., no figurative speech, metaphors, ...
- ► Do not explain general knowledge
- Explain intuition very carefully, go beyond derivations

Intro

Be precise and keep it simple! Intro

A few suggestions for a good (scientific) style

- ▶ Use most of the time the active voice
- Write complete sentences
- Keep one tense
- Be dispassionate and precise

Active vs. passive voice

Active voice

- ► An agent (SUBJECT) is doing s.th.
- ► "The researchers argued that the Earth is flat."

Passive voice

- Something is BEING DONE
- "It has been argued that the Earth is flat."
 - → BY WHOM?
- "It has been argued (by the researchers) that the Earth is flat."

Active vs. passive voice

Use the active voice

► In order to make clearer, more direct statements (In most cases)

Use the passive voice

- ► For stylistic reasons—if the agent is relatively unimportant:
- "rules are made to be broken."
- ► "A new discovery has been made..."

Avoid sentence fragments

- ▶ Make sure every sentence has a main verb and a subject!
- Consider the following examples:
 - ► "The authors have several findings. On wages, employment duration and working conditions."
 - "A very important question."

Keep one tense

- Establish the main tense for your paper (preferably present) and keep it consistently
 - e.g., this paper argues, the results show, we find, our regressions take twenty minutes to run, X and Y argue that Z finds, W concludes...
 AND NOT
 - X and Y ran a regression, Z argued, and W modeled this as...
- 2. Deviate from this rule only when there is a logical shift in the time frame
 - e.g., eventually in the conclusion: this paper argued, the results emphasized, etc.
 - or when referring to earlier strands of literature (shift to past tense), etc.

Citations

Intro

Citations are needed...

- when making general statements
- when referring to numbers
- when referring to ideas or work of others

Citations: Example 1

A good deal has been written about exchange rate crises, in general, and the Asian crisis, in particular, from a macroeconomic perspective. Much less is known about the impact of these crises at the micro-level. However, it is important to know how the

¹ See, for example, Corsetti et al. (1999), Radelet and Sachs (2000) and the materials produced by the NBER Project on Exchange Rate Crises in Emerging Market Countries. Ahuja et al. (1997) and Cameron (1999) provide a description of the Asian crisis in the context of the Indonesian economy.

² Fallon and Lucas (2002) provide an excellent summary of the evidence on the effect of economic shocks on household well-being. Frankenberg et al. (1999) provide a broad overview of the immediate effect of the Indonesian crisis on an array of indicators of individual and family well-being. Those, and other results, are summarized in Poppele et al. (1999). Levinsohn et al. (2003) explore the likely effects of the crisis using household budget data collected prior to the crisis.

Citations: Example 2

The majority of the literature on risk in low-income settings has focused on farmer response to weather risk and the adoption of mechanisms to provide insurance in the face of that risk. (See, for example, Rosenzweig, 1988; Rosenzweig and Wolpin, 1993; Udry, 1994; Fafchamps et al., 1998; Townsend, 1994; Platteau, 1991). The effects of financial crises are likely to be different for several reasons. First, the immediate effect of the crisis is likely to be felt not by relatively low-income farmers, many of whom are isolated from market economies, but by those active in the modern or commercial economy—people who tend to be urban and relatively high income. Second, exchange rate crises typically translate into relative price shocks which are transmitted more efficiently where markets are more fully developed. Subsistence farmers are likely to be largely protected from the effects of exchange rate risk. Indeed, it is precisely because markets are poorly developed in rural economies that there are likely to be limited mechanisms to insure oneself against weather risk. Third, the effects of weather shocks are typically more spatially concentrated than those of exchange rate shocks.

These insights suggest that the effects of the Indonesian crisis were likely to be felt primarily by the urban elites (as suggested by Poppele et al., 1999, for example). If

Citations: Direct quote

Used only for really exceptionally perfect statements

Example:

"[...] payments for environmental services (PES) can be defined as: (1) voluntary transactions, (2) between service users, (3) and service providers, (4) that are conditional on agreed rules of natural resource management, (5) for generating offsite services" (Wunder 2015, p.421).

Citations: Indirect quote

- ▶ Be used a lot
- ▶ Be cautious! Indirect quotes are quotes said in your own words. Slightly changing the order of the sentence is not enough! (We check for plagiarism!!)

Examples

- ▶ Moreover, there is a broad consensus that agricultural growth is pro-poor and pro-growth (Thirtle et al. 2001).
- Evidence-based policymaking has a long tradition in medical research where experimental trials are intensively used since the 1970s (cf. Cochrane, 1972).

Citations: Plagiarism example

Since the exact date of construction is unknown, Dröes and Koster (2016) consider the first year after construction the starting date. Thus, they apply the following DID model:

$$\log p_{it} = \alpha w_{it-1} + \gamma v_i + \theta_t + \epsilon_{it} \tag{1}$$

In the model, p_{it} captures the price of property i in year t. The average treatment effect is denoted as $\propto w_{it-1}$ is a dummy variable indicating, whether a first wind turbine has already been constructed within d km of property i. 1 Since wind turbines are mostly placed in rural areas with lower house prices, Dröes and Koster (2016) further incorporate an indicator variable to control for possible selection effects. This treatment group indicator is denoted as v_i and equals one if property i is treated at least once between 1982 and 2012². Note that there is no change in v_i over time. According to the authors, w_{it-1} moreover accounts for the interaction of v_i and a before/after treatment

Intro

List of references

How to list...?

Journal articles

Author -year of publication - title - name of journal - volume (issue) - pages.

- Atkin, David (2016): "Endogenous skill acquisition and export manufacturing in Mexico." *American Economic Review*, 106(8): 2046-2085.
- Autor, D. H., Dorn, D., Hanson, G. H. and Song, J., 2014. Trade adjustment: Worker-level evidence. *Quarterly Journal of Economics* 129(4), p. 1799-1860.
- Davis, L. W. and Kahn, M. E. (2010): International trade in used vehicles: The environmental consequences of NAFTA. In *American Economic Journal: Economic Policy*, 2(4), p. 58-82.

Working paper

Author – year of publication – title – type – paper nr – name of institution – location of institution

- Nordhaus, W. D. (2006): The "Stern Review" on the Economics of Climate Change, NBER Working Paper 12741, National Bureau of Economic Research, Cambridge.
- Duggan, V., Rahardja, S., and Varela, G. (2013). Service Sector Reform and Manufacturing Productivity: Evidence from Indonesia. World Bank Policy Research Working Paper, 6349, The World Bank, Washingtion D.C.

Books

Author -year of publication - title - publisher - edition

- ► Grossman, G. M. and Helpman, E. (1991). *Innovation and Growth in the Global Economy*. MIT Press, Cambridge, MA.
- ► Coleman, James S.; Coleman, James Samuel (1994): Foundations of social theory: Harvard University Press.
- ▶ Ito, Sanae (1999): The Grameen Bank: rhetoric and reality: University of Sussex.

Articles in anthology

Author -year of publication - title - (author/publisher of anthology)- anthology - pages

- ► Kanbur, Ravi (2006): The economics of international aid. In *Handbook of the Economics of Giving, Altruism and Reciprocity* 2, pp. 1559–1588.
- Duflo, E., Glennerster, R., Kremer, M. (2007). Using Randomization in Development Economics Research: A Toolkit. In: Schultz, T.P., Strauss, J.A. (Eds.), Handbook of Development Economics, Chapter 61. North-Holland, Elsevier Science Pub. Co., Amsterdam, 38953962.

Electronic sources articles

Author -year of publication - title - hyperlink - date of availability

- Nuñez, David, Carmen Fernandez-Gago et al. "D: C-5.1 Metrics for Accountability." Accessed May 9, 2014. http://a4cloud.atc.gr/sites/ default/files/D35.1%20Metrics%20for%20accountability.pdf.
- Bharadwaj, P., and Vogl, T. (2015): Crisis and Human Biology, available at http://www.princeton.edu/~tvogl/bharadwaj_vogl_crisis.pdf, 17.02.2016.
- ▶ Dasgupta, P. S. (2007): Discounting Climate Change, Discussion Paper, University of Cambridge. Download unter: http: //www.econ.cam.ac.uk/faculty/dasgupta/pub07/stavins_june07.pdf (accessed on July 1, 2012).

3 rules

- 1. Be consistent! Choose one citation style and stick to it!
- 2. Organize your list alphabetically! By the Family name of the first author + by the year of publication
- 3. A reference is a full sentence! It starts with a CAPITAL letter + Ends with a point.

List of references: Example

Frankenberg, E., Mckee, D., and Thomas, D. (2005). Health consequences of forest fires in Indonesia. *Demography*, 42(1):109–129.

Fredriksson, P. G., Matschke, X., and Minier, J. (2010). Environmental policy in majoritarian systems. *Journal of Environmental Economics and Management*, 59(2):177 – 191.

Gatto, M., Wollni, M., Asnawi, R., and Qaim, M. (2017). Oil palm boom, contract farming, and rural economic development: Village-level evidence from Indonesia. World Development, 95:127 – 140.

Geist, H. J. and Lambin, E. F. (2001). What drives tropical deforestation. LUCC Report series, 4:116.

- GISPEDIA (2018). SHP Indonesia level kota dan kabupaten. http://www.gispedia.com/2016/06/download-shp-indonesia-level-kota-kabupaten.html (last accessed 06/04/2018).
- Global Forest Watch (2018). Spatial boundaries of oil palm, wood fiber and logging concession in Indonesia. www.globalforestwatch.org. Accessed through Global Forest Watch on 17.11.2018.

Intro

Formal requirements

- ► Include time for formatting
- ► Title page, correct margins, typeface...
- ▶ Please see section 2 of "Guideline for writing a thesis"

Intro

Further questions?