

Scientific writing

Elías Cisneros

The University of Texas at Dallas

Reading papers

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?

Defining your topic

- ▶ **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?”

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!

Selection of relevant and adequate papers

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

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

- ▶ I strongly recommend using [Latex/Overleaf.com](#) + [Jabref](#)
- ▶ [Would you like an introduction to Overleaf.com + Jabref?](#)

Exposé / Proposal

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

- ▶ 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?

Primary literature

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

Let's discuss...

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

6. Structuring arguments
7. Style

Introduction

Take-off

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

Introduction

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...

Introduction

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.

Introduction

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.*

Introduction

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.

Introduction

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.

Main part

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

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

Main part

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...

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

List of references

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

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



and your list of references

Style

Build a clear line of arguments!

Tell a story!

The pearl string



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

Be precise
and
keep it simple!

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

1. 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

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.¹ Much less is known about the impact of these crises at the micro-level.² 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 [Ponpele 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:

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

In the model, p_{it} captures the ¹price of property i in year t . The average treatment effect is denoted as α . w_{it-1} is a dummy variable indicating, whether a first wind turbine has ¹already been ¹constructed within d km of property i .¹ Since ¹wind turbines are mostly ¹placed 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 ¹accounts for the interaction of v_i and a before/after treatment indicator as the latter is absorbed by θ_t , which denotes the year (and month) fixed

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, Washington D.C.

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.

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.

Formal requirements

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

