

Doing research and writing: A personal guide

Claes Bäckman

Research is like...

Learning how to ride a bike

No exact science

Lots of implicit knowledge

Learning by doing instead of theorizing



Using a flashlight

You decide what to shine the light on



Good research requires good communication skills

Being a researcher is very different from taking exams

- Finding new ideas is different from solving problem sets
- Writing a new paper is not the same as understanding an existing one

My contention is that most of these skills are not taught in normal classes

- Writing takes time and effort and **practice**
- Organizing a research project takes effort and skill

But they are possible to learn!

Today's agenda

What we will (hope) to cover today

- How to find ideas and search for literature
- Writing tips

Left for later

- Some practical tips
- Graphs and Tables
- Presenting

At the end are some further resources you can use

You need to work in a structured way on
writing and finding ideas

Being productive means finding a way to focus

Work hard to avoid things that will break your concentration

- Close down Facebook, Twitter, emails, put your phone on do not disturb and put it away
- It takes me about 20 minutes to get into a flow

Figure out when you are productive, and then protect that time

- Is it after lunch? In the morning?
- Schedule time for administrative tasks or emails when you are not productive

I highly recommend Deep Work by Cal Newport

“I only write when inspiration strikes.
Fortunately it strikes at nine every
morning.”

Herman Wouk, quoting William Faulkner

Roadmap

How to find ideas and search for literature

Writing tips

- General tips

- How to get started?

- The importance of editing

Conclusions and further resources

Some very practical tips

Graphs and tables

Presenting

Finding good ideas is really hard!

Good research ideas involves finding connections between things ([a good guide by Paul Niehaus](#))

- Huge heterogeneity in how people come up with ideas
- What works for me may not work for you

A lot of ideas are worth spending some time on (PhD students: 2-4 weeks), but few are worth spending a long time on

- Try to fail quickly

Be hard to research ideas, not to yourself.
Self-worth is not at stake here.

Sample many ideas!

Good ideas involve complex interactions between

- The literature on the topic
- What is happening in the world
- What data is available

Some tips? (Mostly trivial and abstract things)

- Read papers on topics you are interested in
- Read the news
- Try to be curious about the world

Is there alpha in reading the same literature
as everyone else?

What should you be reading?

You should sign up for working papers

- NBER working paper emails, IZA emails, RePeC emails, and notifications from the journals that you like

Reading (skimming?) working papers email will provide a great overview of new papers

Generate ideas by trying to write a paper,
and try to be critical of the project, not
yourself

Different styles of idea generation (Skip?)

Old methodology applied to new topic

- If you are very familiar with a model or way of thinking, you can try to come up with new applications

Use standard tools to analyze policy intervention

- Read about policies and come up with a way to test the effects
- Need to figure out the most interesting part of the policy

New contribution to old topic

- Requires extensive knowledge of the topic

Probably many more – you need to find your own approach!

Collaborating with other PhDs or Professors

My contention: Collaborating with an experienced researcher is a useful way to learn

- Perhaps better to do so early rather than late?

Big caveat: people have very strong opinions about collaborations

- Ask your supervisor
- University guidelines for the PhD also matters a lot

How to start collaborating outside of Mannheim?

Visit conferences and talk to people, or write emails!

- Find funding to go to small, important conferences
- Talk to speakers!
- Ask your supervisor to introduce you to specific people

Be upfront about your intentions

- A lot of professors have more ideas than time

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Writing

Writing is very difficult!

You need to put in effort

Franz Kafka, journal entries in Winter of 1915

January 20, 1915: The end of writing. When will it take me up again?

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January 30, 1915: The old incapacity. Interrupted my writing for barely ten days and already cast out. Once again prodigious efforts stand before me. You have to dive down, as it were, and sink more rapidly than that which sinks in advance of you.

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February 7, 1915: Complete standstill. Unending torments.

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Good academic writing is clear and to the point

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Fuck Nuance

Sociological Theory
2017, Vol. 35(2) 118–127
© American Sociological Association 2017
DOI: 10.1177/0735275117709046
st.sagepub.com


Kieran Healy¹

Abstract

Nuance is not a virtue of good sociological theory. Although often demanded and superficially attractive, nuance inhibits the abstraction on which good theory depends. I describe three “nuance traps” common in sociology and show why they should be avoided on grounds of principle, aesthetics, and strategy. The argument is made without prejudice to the substantive heterogeneity of the discipline.

Keywords

theory, nuance, models, fuck

Good (?) academic writing is sometimes funny!

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1.1 INTRODUCTION: THERMODYNAMICS AND STATISTICAL MECHANICS OF THE PERFECT GAS

Ludwig Boltzmann, who spent much of his life studying statistical mechanics, died in 1906, by his own hand. Paul Ehrenfest, carrying on the work, died similarly in 1933. Now it is our turn to study statistical mechanics.

Perhaps it will be wise to approach the subject cautiously. We will begin by considering the simplest meaningful example, the perfect gas, in order to get the central concepts sorted out. In Chap. 2 we will return to complete the solution of that problem, and the results will provide the foundation of much of the rest of the book.

much of the rest of the book.

Good (?) academic writing is sometimes funny!

1. INTRODUCTION

Since the dawn of time, human beings have asked some fundamental questions: who are we? why are we here? is there life after death? Unable to answer any of these, in this paper we will consider cohomology classes on a compact projective manifold that have a property analogous to the Hard-Lefschetz Theorem and Hodge-Riemann bilinear relations.

Good academic writing conveys the central question straight away

THE CONSEQUENCES OF MORTGAGE CREDIT EXPANSION: EVIDENCE FROM THE U.S. MORTGAGE DEFAULT CRISIS*

ATIF MIAN AND AMIR SUFI

We conduct a within-county analysis using detailed ZIP code-level data to document new findings regarding the origins of the biggest financial crisis since the Great Depression. The sharp increase in mortgage defaults in 2007 is significantly amplified in subprime ZIP codes, or ZIP codes with a disproportionately large share of subprime borrowers as of 1996. Prior to the default crisis, these subprime ZIP codes experience an unprecedented relative growth in mortgage credit. The expansion in mortgage credit from 2002 to 2005 to subprime ZIP codes occurs despite sharply declining relative (and in some cases absolute) income growth in these neighborhoods. In fact, 2002 to 2005 is the only period in the past eighteen years in which income and mortgage credit growth are negatively correlated. We show that the expansion in mortgage credit to subprime ZIP codes and its dissociation from income growth is closely correlated with the increase in securitization of subprime mortgages.

Starting from the beginning

Figure out **one central and novel contribution**

- Make it concrete
- This is painful – you will have to throw out many interesting things

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- But also useful, **because it allows** you to throw out many interesting things

Starting from the beginning

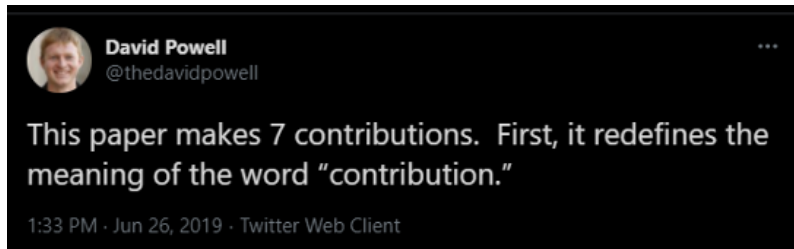
Figure out **one central and novel contribution**

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An example:

We use survey questions about spending in hypothetical scenarios to investigate features of propensities to consume that are useful for distinguishing between consumption theories (Fuster et al. , 2021)

Make sure you don't have too many contributions



You find something really interesting in the data, but it's not related to the research question. Should you write about it?

More simple advice

Your writing should be in a newspaper style

- Start with a summary of the most important bits, then go deeper into the details
- One idea per paragraph
- Academic writing is not a mystery novel

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Your readers are busy – make it easy for them

- We want to know the research question, the method and the outcome very quickly

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Your sentences should be short and to the point.

- Use active voice (“I estimated the model”)
- Avoid overly dramatic language (“the results are mind-blowingly good and interesting”)

*“Your sentences are too simple – you
are not giving enough credit to the
complexity of law”*

Comment to a friend of mine, writing Swedish sentences in German

Some advice for non-native speakers

Academic writing in English is different from (academic writing in) your native language

- Swedish and German sentences are often in passive voice
- Russian (and German?) sentences are often very long, with lots of commas

Be aware that there are differences in sentence structure across languages

- Use simple sentences
- Use active voice

Just get started!



Arpit Gupta

@arpitrage

Personally, I like to go with:

"Many years later, as he faced the firing squad, Colonel Aureliano Buendía was to remember that distant afternoon when his father took him to discover the incidence of corporate taxes on workers."



Rachael Meager @economeager · Nov 1, 2019

The best way to get started is to write as the title "Paper About XYZ: Shitty First Draft" and then start the first sentence with "It was a dark and stormy night, and [describe the problem your paper will then solve]."

[twitter.com/scottjshapiro/...](https://twitter.com/scottjshapiro/)

[Show this thread](#)

More on how to get started

The first sentence and paragraph are the hardest!

- The first paragraph in a paper usually sets up the problem and why it is important and what the research question is
- Do not start with philosophy

A tip: you do not have to start at the beginning

- Writing the data section first gets you going
- Write a short placeholder paragraph for the intro, and then come back to it later

The introduction formula from Keith Head

Motivate with a puzzle or a problem (1-2 paragraphs)

- The most important paragraph

Clearly state your research question and central contribution

- One central contribution and briefly what it means

The rest is details:

- Empirical approach/theoretical approach + detailed results, value added to rest of literature, robustness checks

An exercise

Pick one of the papers you like and only look at the first page/first two paragraphs

1. What is the motivation or puzzle?
2. What is the research question?
3. What is the central contribution?

On a scale of 1-10, how important do you think editing is?

"[...] the single best predictor of getting a paper accepted, would be clear and accessible writing, including an explanation of where the paper breaks down, instead of putting the onus of this discovery on the reader"

Amitabh Chandra, the Editor of the Review of Economics and Statistics

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But you will not write clearly and accessibly on the first try – you need to work

No one is great at writing at first

This is why it is important to edit our writing

- Every word counts, and if you write too many words, it is easy to get lost as a reader, especially if you also want to add another point, like the importance of being precise in your writing
- Do not repeat things
- You don't have to say things twice, in different words.
- Repetition is a really bad idea
- Simple is better, because you want to be able to convey your results in a way people understand

No one is great at writing at first

This is why we edit

- Keep it short
- Do not repeat things
- Simple is better

Be hard on the writing, not on yourself

But you need something to work with

Introducing the concept of **Shitty first drafts**:

- Just put something down on paper

But you need something to work with

Introducing the concept of **Shitty first drafts**:

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"Now, practically even better news than that of short assignments is the idea of shitty first drafts. All good writers write them. This is how they end up with good second drafts and terrific third draft."

Anne Lamott from Bird by Bird ([Link](#))

Can ChatGPT help?

Prompt from Ingar Haaland

You are now my copy editor. I am writing an academic paper in the field of economics.

I will give you a few paragraphs from the paper. I want you to point out each sentence that includes clear examples of unclear writing or awkward phrasing.

Specifically, for sentences with unclear writing or awkward phrasing, create a bullet list for each sentence that you identify with a suggestion for how to improve the sentence. I also want a brief justification for the change. Each suggestion based on a sentence should thus follow the following format: Old sentence, new sentence, and justification.

I also want you to create a separate bullet list of all grammatical errors that you find in the paragraphs.

Let me know if these instructions are clear. Only start copy editing when I actually give you a paragraph

Exercise for you (later?)

Take 5-10 minutes to write something. Start on an assignment, write the beginning of your thesis, whatever you want

One simple rule: No erasing text

- No changing the spelling
- No going backwards
- (You do not have to show it to anyone if you do not want)

Exercise for you (later?)

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When you are done, tell ChatGPT what the goal was and use the prompt above to edit

ChatGPT is a **transformer**, not a search engine

Many people use ChatGPT as a search engine

- Results are based on historical training data, not a search
- ChatGPT does not access a database
- Training data can easily reflect biases or inaccuracies

Hallucinations are common in Large Language models

- ChatGPT will make up paper, make up code, etc
- It will sound very reasonable, because that is what it is optimizing

For more, see [Ingar Haaland – Integrating ChatGPT Into Your Research](#)

Josh Goodman on Twitter

I'll note one other major concern I had. I was not familiar with one of your citations, so I dug deeper and found that at least four of your references cited in the paper and listed in the bibliography do not exist. Though I have no way of knowing for sure how that happened, my best guess is that part of the writing process involved AI such as ChatGPT, which famously hallucinates citations (i.e. generates plausible but nonexistent works). Though I suspect the problem is limited to the literature review, seeing such references listed lowers my confidence in the paper as a whole. I would strongly recommend addressing that problem before resubmitting elsewhere, as well as conducting more careful literature reviews in future papers.

Roadmap

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- General tips

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Conclusions and further resources

Some very practical tips

Graphs and tables

Presenting

You are not your research project.
Be hard on the project, not yourself

Key takeaways

You need to work in a structured way on writing and finding ideas

- Try to be clear on what your goal is, and work towards that goal
- Focus on one **central contribution of your work**
- Learn how you focus!

Try to go from “OMG it’s all terrible” to “OMG it’s all terrible, **now let’s make it better**”

You can find **lots of resources here**

Managing relationships in academia

How can you manage your supervisor?

- You need to find the best way for **how you** get the most out of your supervisor
- Idea generation? Writing tips? Connections?

How to manage your co-authors

- The project leader has to manage lots of busy people
- This is a skill!

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Use Zotero or Mendeley to handle references

Zotero collects all information on your papers in one program, along with the PDF

- Very useful for organizing yourself
- Allows you to search for papers later

You can download a Chrome plugin to automatically get references and PDFs into Zotero

References can be automated in LaTeX, Word (e.g., through Zotero), or
Markdown

For your own sake, set this up so that it works

Click on “Cite”

Housing wealth effects: The long view

[AM Guren, A McKay, E Nakamura...](#) - The Review of ..., 2021 - academic.oup.com

... **housing wealth effect** back to the 1980s. We use three identification strategies: ordinary least squares with a rich set of controls, the Saiz **housing** ... exposure to regional **house** price cycles...

☆ Save  Cite Cited by 263 Related articles All 26 versions 

Click on BibTeX at the bottom

	Cite
MLA	Guren, Adam M., et al. "Housing wealth effects: The long view." <i>The Review of Economic Studies</i> 88.2 (2021): 669-707.
APA	Guren, A. M., McKay, A., Nakamura, E., & Steinsson, J. (2021). Housing wealth effects: The long view. <i>The Review of Economic Studies</i> , 88(2), 669-707.
Chicago	Guren, Adam M., Alisdair McKay, Emi Nakamura, and Jón Steinsson. "Housing wealth effects: The long view." <i>The Review of Economic Studies</i> 88, no. 2 (2021): 669-707.
Harvard	Guren, A.M., McKay, A., Nakamura, E. and Steinsson, J., 2021. Housing wealth effects: The long view. <i>The Review of Economic Studies</i> , 88(2), pp.669-707.
Vancouver	Guren AM, McKay A, Nakamura E, Steinsson J. Housing wealth effects: The long view. <i>The Review of Economic Studies</i> . 2021 Mar 1;88(2):669-707.

[BibTeX](#) [EndNote](#) [RefMan](#) [RefWorks](#)

Et voilà, you can save the reference in a bib-file

```
@article{guren2021housing,  
  title={Housing wealth effects: The long view},  
  author={Guren, Adam M and McKay, Alisdair and Nakamura, Emi and Steinsson, J{\o}n},  
  journal={The Review of Economic Studies},  
  volume={88},  
  number={2},  
  pages={669--707},  
  year={2021},  
  publisher={Oxford University Press}  
}
```

If you write in LaTeX, you can use “`\citet{guren2021housing}`” or “`\citep{guren2021housing}`” to get the reference

- `\citep{guren2021housing}` → (Guren et al., 2021)
- `\citet{guren2021housing}` → Guren et al. (2021)

You can also use LLM

BibTeX Converter from Ingar Haaland

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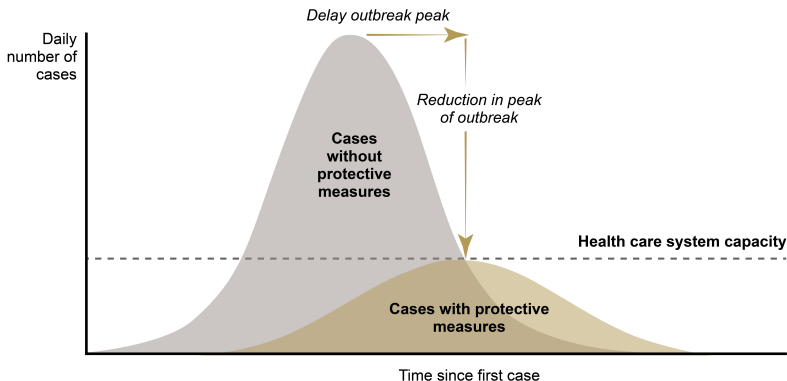
Some very practical tips

Graphs and tables

Presenting

A graph can communicate complex ideas

FLATTENING THE CURVE



Source: CDC

Use figures to communicate your main results

A figure is the best way to get your points across

- A well-designed figure can be very convincing

Think carefully about the type of figures you want to include

- Spend time making them look nice
- Spend time thinking about their purpose

Figures are a great way to learn

- Plot the raw data to learn about the relationship between variables
- Outliers, problems with the data? You can see them in figures, not in regressions

Spend time automating graphs and tables and make them look nice

You can use R/Stata/Python + LaTeX/Markdown to automate graphs/tables in a paper

- Very useful thing to do!

Use clear and informative labeling

- Do not use the same name as the variable in the data

Nice guides: Data Visualization by Kieran Healy and take a look at the [course on data visualization by Andrew Heiss](#)

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Your presentation need to convince the audience to listen to you

You have 1-2 slides to convince the audience to pay attention

- Tell the audience very quickly what your research question is

Get to the central contribution early

- It's not a mystery novel – get the central contribution in early!

Getting too many irrelevant questions?

You can influence questions and comments by being clear

- Research question on slide 1 → Questions related to your topic
- Research question on slide 5 → Questions about whatever the audience thinks the research question is
- No research question → Random questions on whatever the audience thinks is important

More tips

Every slide should have a purpose and you should go through it

- Make sure you have enough time to go through all your material

Nicely formatted graphs and tables that are actually readable are a must

- Update your font sizes and labels to fit a presentation

Prepare well and know your paper

- Practice, practice, practice
- Make sure you can go through all the slides even with questions
- 20 minute presentation – prepare slides for 15 minutes

Resources for writing

1. John Cochrane - Writing Tips for Ph. D. Students
2. Jesse M. Shapiro - Four Steps to an Applied Micro Paper
3. Plamen Nikolov - Writing Tips For Economics Research Papers
4. Keith Head - The Introduction Formula
5. Florian M. Hollenbach - Academic Writing: Exercises and Guides on Writing (Lots of links to writing resources)

Resources for presenting

1. Jon Schwabish - Better Presentations (book) and website for making better presentations.
2. Rachael Meager - Public Speaking for Academic Economists
3. Jesse M. Shapiro - How to give an applied micro talk
4. Paul Goldsmith-Pinkham Beamer Tips
5. Carmine Gallo - How to Rehearse for an Important Presentation
6. Marc F. Bellemare - 22 Tips for Conference and Seminar Presentations

Finding new ideas

1. Deep Work by Cal Newport (see also his blog, Study Hacks)
2. Steve Pavlina - 7 Rules for Maximizing Your Creative Output
3. Ben Olken - My Epic Failures
4. For new ideas: See this [Twitter-thread started by Ivan Werning](#).
5. [5 steps toward a paper by Frank Schilbach](#)

In general, you will hear lots of advice and some of it will contradict other advice. Find the thing that works for you!

Links for Tables and Graphs

1. Luke Stein's tips for generating Stata output that can be outputted directly to LaTeX (Don't miss the working examples with code).
2. Stata Cheat Sheets
3. Jörg Weber - Automated Table generation in Stata and integration into LaTeX
4. Alessandro Martinello - How to export tables from Stata to LaTeX
5. Nicholas T. Davis - A 2019 New Year's Resolution for Stata users: Make cleaner, prettier graphs
6. Paul Goldsmith-Pinkham Best Figure Page (good inspiration!)
7. Chiu Yu Ko - TikZ guide (Code for drawing graphs in LaTeX with so many examples)

Resources for project management and data

1. Coding for economists - Ljubica "LJ" Ristovska
2. Code and Data for the Social Sciences: A Practitioner's Guide - Matthew Gentzkow and Jesse M. Shapiro
3. How To Make A Pie: Reproducible Research for Empirical Economics and Econometrics
4. Maximilian Kasy - Useful Computational Resources (Guides to machine learning, programming in R, Latex)
5. Grant McDermott - Data science for economists
6. Tobias Oetiker Hubert Partl, Irene Hyna and Elisabeth Schlegl - The Not So Short Introduction to LATEX
7. Hans-Martin von Gaudecker - Setting up a Python Environment
8. Michael Stepner - Coding Style Guide
9. Michael Stepner - Git vs Dropbox

1. Marc F. Bellemare - How to Publish in Academic Journals
2. Campbell R. Harvey - Reflections on Editing the Journal of Finance, 2006-2012
3. Jonathan B. Berk, Campbell R. Harvey, and David Hirshleifer - How to Write an Effective Referee Report and Improve the Scientific Review Process
4. Journal of the European Economic Association - Ask the Editor with Juuso Välimäki

Resources for dealing with stress

1. Chris Woolston - Faking it
2. Jennifer Walker - There's an awful cost to getting a PhD that no one talks about
3. Valerie Valdes - Smart kids eventually grow up
4. Matthew Pearson - How to survive your first year of graduate school in economics
5. Diana Leonard - A woman's guide to doctoral studies
6. Maggie Berg - The Slow Professor

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