

Unofficial Guide to PhD

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Disclaimer, Acknowledgement

- The responsibility for any opinions or errors rests with the author, and none of the views expressed in this talk reflects those of the faculty.
- This guide is inspired by “An Unofficial Guide To Part III” by Professor Thomas Körner of Trinity Hall (available from <http://www.maths.cam.ac.uk/postgrad/mathiii/current.html>), which has been the bible of Part III maths tripos and helped lift the standard of the program for many years. Since I have greatly benefited from the wisdoms of Professor Körner and Dr Tadashi Tokieda (also of Trinity Hall) throughout my time in Cambridge, I felt obliged to pass on their wisdoms to our students who can also benefit from hearing them.

Aim of this talk

- Give guidance to new students about what (not) to expect from your PhD
- **Clarify the difference between being a research student and a student of a taught-program**
- Lift all students from bottom up – to minimize unnecessary failures or under-performance of those who miss basic advice
- Given all available information, you decide what to do

Description of PhD

- This is a three-year research program in economics
- Some coursework (in MPhil/PhD modules) during the 1st year
- Write a research proposal AND first-year PhD dissertation (Chapter 1 of your PhD) in 1st year
- **Students must pass exams or assignments for the coursework component**
- **The faculty's research standard is very high.** Average standard of students is also very high
- **VERY easy to slack off (i.e. self-discipline is very important) Your 3 years will pass VERY fast. Don't waste time.**
- **Pace yourself** – PhD is a marathon, not a sprint (unlike a masters program).

- Aim to produce one paper (chapter) per year on average, 3 papers in total
- Don't count your 4th year to do research. You will be too busy with job search.
- Multi-task between coursework and research during 1st year
- After your coursework, many spend the summer of 1st-year doing research full-time.
- During summer, many also go to summer schools, internships, and conferences. Look out for advertisement now.
- Some make their work public from second-year: some students start publishing in CWPE and start presenting in conferences from next autumn

Scenarios of PhD dissertation

- Excellent scenario = all three papers (chapters) are published in top journals (or on the way to publication).
- Very good scenario = all three papers are excellent. At least one paper is published in top journal (or on the way to publication).
- Good scenario = at least one chapter is excellent and on the way to top-journal publication, another chapter is also equally excellent, the third carries less weight but also very good
- ... and so on.

NOTE (1): I am NOT counting publications in CWPE. I am counting only top-journals (due to Prof. P.'s wisdom in Slide 26.)

NOTE (2): the meaning of excellency really depends on what you want to do after your PhD.

BUT: if you have a credible paper by the end of 1st-year, your life becomes easier than otherwise in the years beyond, and so on.

First-year course choices: efficient multi-tasking

- Choose courses that helps your research.
- **Take the course taught by your supervisor** - it will help you **understand** your supervisor.
- **Directed reading** helps you shape your research proposal.
- Determine your course choices fast and start focusing on them fast.
- **Courses with take-home assessments never means they are “easier” to pass**

First-year proposal and thesis: a very common mistake

Do not set an overly ambitious research topic for your first-year dissertation.

- Set a modest target of contribution to the literature
- Make sure your 1st-year topic is feasible in 1 year, and that your proposal convinces others it is feasible

This is due to the institutional aspect of research - first-year is still all about proving to the authority your ability to

- conduct research (both intellectual and operational aspects)
- produce output
- you can write well

If you have no output by the end of 1st-year, the institution may have no reason to believe that you can conduct research at the most basic level (at the end of 1st-year viva).

First-year proposal (ctd.)

- After the proposal viva, some change research topic - this is not a great impediment, but it's more efficient if you don't have to change topic.
- You cannot really fail proposal viva. But you can fail
 - **coursework component, even a PhD module** (i.e. there is no mercy from the faculty)
 - **first-year dissertation viva**
- You should take full-advantage of any viva. In principle, **vivas are rare opportunities academics (=your examiners) are forced to read your paper and give you critical comments.**
- Some students submit output close to the final version of first-year dissertation as research proposal.

- Write using LaTeX (highly recommended). If you don't know it, learn it now. (E.g. LyX, TeXnicCenter, WinEdt, Scientific WorkPlace)
- A bible of academic writing: “Politics and English Language” by George Orwell. Many credible professors have read this at least once.
- **Identify and clearly state what your contributions are** in the introduction
- **You score most points on creative deep thinking and your unique contribution to the literature.**
- Be explicit about the weaknesses - clearly state the limitations of your analysis implied by core assumptions.
- **Paper length: the shorter the better.** Be concise.

To create a presentable draft, writing goes in 3 phases

- 1 write it up to the highest standard you can achieve in a short period (a dense period of concentrated work)
- 2 leave it and sleep on it for a while
- 3 come back to it after 1-2 months and rewrite until you have a presentable draft

Then rewrite your paper now and then, every time you receive comments from people until publication.

Writing well: sharp focus on your contribution

- **Orientate every part of your paper around your main contribution.**
- Do NOT write anything irrelevant or you don't really understand, just for the sake of writing or just because it sounds cool. **It's really easy for professors to tell when you're doing this.** (Read Orwell.)
- **You must own every word in your paper.** Thus always ask yourself for **each** sentence you write:
 - does this statement make sense,
 - is it accurate,
 - could it be simpler
 - could it be clearer,
 - is it necessary,
 - are all the words in it necessary?

(Read Orwell.)

- Do literature review mainly for the sake of your own learning. Do NOT write everything you reviewed.
- **BUT** if your literature review is too shallow, it can signal that you neglect other people's important contributions. **Some get corrections for missing important citations at viva.** Reference important papers that are relevant to your contribution in order to
 - put your contribution into context,
 - reinforce the value of your contribution,
 - defend your approach
- Very good to reference recent papers (that are relevant). E.g. citations of 2013 papers can be impressive and show you keep up with the literature

Be generous in the acknowledgement. Acknowledge whoever has read your paper and gave you comments

Be hyper-cautious about criticizing other people's work in your paper. Some academics can hold hostility against you for many years. Whenever you feel you have to criticize someone, make sure

- your statements are absolutely correct
- sound as professional as possible (i.e. try not to make other authors feel personal)

Importance of getting people interested

Usually, **people do not want to read our paper** if they can get away without doing it, because we are still nobody in academia.

- BUT you need:
 - people to read your paper seriously
 - especially your supervisor to read your paper seriously
 - **credible** and **critical** comments from those who read (**it is not enough to hear “it seems ok.”**)

How can you receive such credible attention from people?

Best answer = develop a mutually beneficial relationship. It will take you a long way.

- Read their published papers and give them good comments or ask questions. Read their unpublished papers and humbly **ask** about some possible errors **you think** you found in their unpublished papers. **Show great interest in their work.**
- **Make sure your research topic is aligned to your supervisor's interest**

Importance of good supervisor-supervisee relationship

Your supervisor has the responsibility to monitor your progress and report to the faculty. **You are responsible for keeping him/her updated on your progress.**

- Report your progress to your supervisor (even if you made no progress) roughly every 2-3 weeks, especially during 1st-year.

Your supervisor has an enormous influence over your PhD outcome. He/she can

- give you a hands-on guidance throughout your PhD
- defend your position (or do nothing to stop you being eliminated) from the faculty if things go very badly
- help you go to conferences, be invited to present there, and network externally
- help you with further funding applications and write you references (important in 4th-year)

Maintaining a good relationship with your supervisor is vital.

You and your supervisor: a common misunderstanding NOT to be made (I)

Your supervisor is

- your boss (i.e. has an authority somewhat similar to hiring and firing you)
- NOT your friend (has no inherent obligation or sympathy to help you)
- NOT your babysitter (normally has no responsibility over your bad outcomes).

You and your supervisor: a common misunderstanding NOT to be made (II)

All academic staff are very busy and under intense pressure to publish in top journals. So do NOT waste your supervisor's time and attention.

Show your understanding of your supervisor's position by

- being on time at every meeting
- always having an agenda at every meeting
- striving to make each meeting short and efficient (minimize babbling and contending)

IMPORTANT: show your supervisor that you listen. Take note and value every comments from your supervisor. Edit your paper accordingly (unless you absolutely disagree for a very good reason)

You and your supervisor: a common misunderstanding NOT to be made (III)

Do NOT expect your supervisor to

- read your paper word for word to point out every error (including typographical, grammatical, and logical errors); or
- point out every criticism you might hear in vivas or journal reviews

You are entirely responsible for everything in your paper. No one else (let alone your supervisor, examiners, or any members of the faculty) is to take blame if things go badly or if you get a rejection at viva - just like any journal submission.

You and your supervisor: working independently

- Be in control of your own research. Do not ask your supervisor vague and silly questions like "what should I do next?" At every meeting, you should be specific and:
 - report what you did and your key findings,
 - tell them your interpretations,
 - tell them what you intend to do next, and
 - ask for their feedback on your progress to check if you are on the right track
- Supervisors are there for you to check if you are on the right track.

You and your supervisor: independent work and receiving feedback

- If you send too many different versions of your paper to your supervisor along the process, it will naturally become boring and feedback may lose focus (unless he/she is a co-author).
- If you want to single-author, it is perhaps best to send as few versions of your paper as possible.
- A minimal example: a draft showing all research outcomes and sketching your final paper, and then a close-to-final draft with all sections intact to the highest standard possible by you. (Though we naturally send drafts to supervisor more frequently than this.)

You and your supervisor: co-author, single-author

- If your supervisor made enough contribution to your first-year paper (in terms of ideas and execution), he/she becomes a co-author.
- If you conduct your research independently enough, your supervisor will award you the right to be a single author.
- Either way, the intellectual relationship between you and your supervisor is often very close and sensitive.
- **At which point does your supervisor become your co-author? Usually, you cannot and should not judge this yourself.**
- **Ask your supervisor for their judgment.** Always be willing to co-author. Hold a view that they made invaluable contribution to the paper. **Never insist under any circumstance that this is your own paper if your supervisor has made a contribution.**

You and your supervisor (ctd.)

- Benefit of having your supervisor as co-author = increased likelihood of publication in top journal because he/she is much more experienced
- One implication of having a co-author = it counts less towards your final thesis. Also, much of the credit might go to your co-author if he/she is a giant in the field.
- Benefit of having a single-authored paper = it counts more towards your final PhD thesis and your general academic record
- Possible implications of single-authoring = generally it requires more work on your part. The publication process may be slower because you single-handedly go through the review process.

You and your supervisor: know how your actions might look

While you are a first-year PhD, normally, try not to establish a co-authoring relationship with other academics **without your supervisor's knowledge**, because

- It might look like “you are looking for another job while working for your current boss” - a taboo in some sense
- It has the potential to offend your supervisor
- Also, **academics are internally and globally much better connected with each other than with you.**

If you are going to do this anyway, communicate your actions carefully.

Presenting your paper to public: trust and reputation

- You should not send your paper to external people unless it's polished to a very high standard. Never send a draft to external people (except your co-authors) because
 - Someone might steal your idea before you publish it
 - It will probably leave them unimpressed anyway
- You will send your draft to your supervisor, but consider the frequency (as I described earlier).
- Even to your PhD colleagues, it might not be ideal to have them read a very early draft (If you're still vigorously editing your paper, why make people read it?)

Present your early draft or ideas only to people you can really trust. Don't present your work prematurely.

Reputation takes years to build, but takes only a moment to be destroyed.

- A super giant academic (Professor P.) says: “only go for the top journals. Do not publish in a low-rank journal - it’s even a negative factor in your CV.”
- Usually, the order of publication goes in the order of
 - ① faculty working paper and conference presentations
 - ② journal submission, reviews, and publication

Stage 2 can take months or years per paper.

- **There are strict formatting rules for each journal** - very time consuming and cumbersome to deal with.
- Rejections are common, even for established academics (apparently). So don’t be discouraged. If you receive feedback from editors, consult with your supervisor.

Importance of networking, identify your competition

Network internally and externally.

- You are NOT really competing with your PhD colleagues here. You are competing with all PhD students (and ultimately all academics) from other universities.
- Many European and US universities produce excellent PhD students that outperform Cambridge candidates in the 4th year (job search in **both** non-academic and academic sectors).
- We all have different competition. Some want to stay in academia, some want to go banking, etc.

So be sympathetic to your PhD colleagues and liaise – but see no point in competing with them. Go to conferences, summer schools, and internships to meet external PhDs. **Compare yourself against external PhDs going to the same industry.**

Importance of professionalism

People will treat you as a professional junior academic.

- Respond to emails, even during holiday. Be prompt, even when your supervisor isn't - **professors don't care about what you think, but you have to care about what they think.** At least acknowledge receipt. Never disappear.
- **Appreciate critical comments and take them seriously. Do NOT take anything personal. You can acknowledge positive comments but they rarely add value to your paper.**

Importance of professionalism (ctd.)

- Apologize promptly when you screw up
- Be respectful to the authority while you question it, because we have no idea about:
 - how things work in academia
 - why things are the way are
- Listen to your supervisor seriously
- Think about **why** your supervisor say what they say
- Think about what your supervisor is NOT saying (British culture is very polite so you might miss criticisms when you need to hear them)