

Doing a PhD: Academic Career Move or Just Putting Off the Real World?

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PhD?

Should you do a PhD?

No!

Reasons *not* to do a PhD

Outside Academia:

- Maths PhD almost disadvantage.
- “If you’re so keen on this job, why didn’t you apply 3 or 4 years ago?”
- Graduate programmes: PhDs treated the same as BAs.
- Can sell your transferable skills, but that’s not a good reason to do a PhD.
- Possible exceptions: Finance, Risk Analysts, Big Data.

Other options

What have other mathematicians done?

- Finance
- Software Development / IT
- Civil Service
- Teaching
- Engineering
- Charities
- lots of other “non-obvious” possibilities

<http://www.careers.cam.ac.uk/sectors/maths/fdsjobs.asp>

http://unistats.direct.gov.uk/subjects/employment/10007788FT-UG_MATX_KIS

Reasons *not* to do a PhD

Want to stay in Academia?

- No job security, no high salaries.
- Postdocs: short term (1 - 3 years), a lot of moving around.
- In Cambridge: roughly 900 start PhDs a year, roughly 250 go on to first job in Academia.
- Permanent positions: hard to get, sometimes not until you're 40.
- Permanent pressure to publish.
- Many pressures and demands on time from many directions.

Bad reasons to want to do a PhD

- Don't know what else to do.
- Don't want to leave Cambridge.
- Best friend/boyfriend/girlfriend is doing a PhD.
- Just want the “title”.
- My parents/friends/... think I should do it.
- Want to turn all of maths upside down and get a Fields medal before you're 30.

(Possibly) *good* reasons to want to do a PhD

- You have to love what you do; at some point in your PhD you'll hate it!
- You have to be really passionate about your subject.
- You have to be prepared to work hard.
- You have to realise there will be times when you'll struggle.
- You want to explore more maths and push back the boundaries of knowledge.
- You did a summer research project and enjoyed it.
- Many people do have fulfilling life as Academics.

Not put off yet?

- Start by deciding on what subject you want to do.
- Then find good supervisors in that subject.
- *DO NOT* start with a “good university” and adjust your subject choice to that!
- Talk to potential supervisors.
- Talk to *students* of potential supervisors.
- Inform yourself early enough about deadlines and finance situations (differs everywhere).
- USA: Do GRE early!

What will it be like?

- (Usually) no enforced structure, no frequent deadlines.
- Self-motivation and self-discipline are important.
- Most of the time very slow progress.
- Problem of depression: research is studying a problem you can't solve.
- Every PhD student thinks at some point that they are a fraud and shouldn't have been let in.
- Teaching can help with these problems.
- Your relationship to your supervisor is very important.

Further advice

Career service:

- <http://www.careers.cam.ac.uk/sectors/academia/index.asp>
- <http://www.careers.cam.ac.uk/sectors/postgrad/whydoit.asp>
- <http://www.careers.cam.ac.uk/sectors/postgrad/issues.asp>
- <http://www.careers.cam.ac.uk/sectors/maths/pt3topgstudy.asp>

Good Luck with your Decisions!

