The wait. The anticipation. The mail carrier drops by the house and delivers a large envelope. It has finally happened: I’m going to graduate school and they’re paying me to go. For a PhD applicant in economics the process is time consuming and expensive. Once matriculated, a PhD program is another significant time investment. The median time to complete the degree in 2002 was estimated to be 5.5 years\(^1\). All of these efforts exhibit a cost. Not simply the explicit costs of tuition, moving, books, and fees, but also the implicit costs of forgone earnings and leisure time. Economists are interested in trade-offs. On one hand you were accepted to a PhD program. On the other, I might enter the work force with my master’s degree and begin my career. Either way I must give up something. Two roads diverge and I cannot travel both. Presumably, if I am ‘rational’, I will choose the prospect that is best. The benefits from the road not taken are termed your opportunity cost.

The opportunity cost of pursuing a PhD is measured by the forgone leisure time spent studying and the salary one might have earned entering the labor force instead. The National Association for Business economics reports that the average starting annual salary for an MA in Economics is around $50,000. Although PhD programs offer assistantships with monthly stipends, these rarely amount to more than $15,000-20,000 annually. For example, I was accepted to Washington State University with a 9 month stipend of $14,400. Excluding the possibility for summer income, my opportunity cost for attending WSU is $35,600 a year in addition to the loss of leisure time. Recall that economists use the term leisure to mean any time not used working. This includes spending important time with family and not just the indolent time with the couch. Because the possible prospects and earnings available post-PhD are larger than my opportunity cost, I deem a PhD in Economics worth the cost.

The time to complete a degree also has its own opportunity cost. The average starting salary for new PhD graduates is $74,000. Thus for each additional year working away in the academic vineyard, a student does not begin his career. Moreover, there is an opportunity cost to the university in financial aid and faculty-time. Holding learning constant, efficiency is higher if graduates complete their degree as quickly as possible. Reducing average graduating time by one year would save $60 million annually in opportunity costs alone. The evidence also leans to suggest that shortening graduate times does not sacrifice learning. For each added year of time-to-degree, top-50 publications declined by 0.15 and journal articles declined by 0.36, holding constant the tier from which the economist graduated as a control for “ability.”\(^2\)

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What factors attribute to completing a degree quickly?

Economists Wendy Stock, Aldrich Finegan and John Siegfried in 2009 and Stock and Siegfried in 2006\(^3\) wrote a pair of papers studying the issue. In the 2006 study they surveyed over 500 students who graduated between July 2001 and June 2002. (There are just over 800 new PhD in a given year.)

They found the following results:

- Being parents at the time of matriculation had no effect, while those who became parents during the program, on average, delayed graduation by a year.
- Those who attained a job 6 months or more prior to graduating, delayed graduation by 9 months.
- Fellowship support is associated with a 5 month faster time-to-graduation time than a teaching assistantship being the primary source of support.
- Those without aid were expected to graduate 11 months later.
- Essay style dissertation usually graduated 6 months faster than single-topic treatise.
- Those who earned their bachelors from a top-50 liberal arts college graduated about a year more quickly than those who graduated from a PhD granting institution.

The 2009 paper followed all fall 2002 Economics PhD enrollees at 27 universities (586 students) and estimated the probability of graduating in 5 years. The total 5-year graduation rate is 27.1%. It decrees as the tier of school decreases.

<table>
<thead>
<tr>
<th>Tier</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
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<tbody>
<tr>
<td>Program Rank</td>
<td>1-6</td>
<td>7-15</td>
<td>16-30</td>
<td>31-48</td>
<td>&gt;48</td>
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<td>PhD Completion Rate</td>
<td>33</td>
<td>31.5</td>
<td>26.2</td>
<td>23.6</td>
<td>16.7</td>
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</tbody>
</table>

Their findings:

- If offices are provided to some of the first-year students then they are 25% more likely to graduate within 5 years.
- Tiers 1 and 2 have a 13% greater chance at graduating within 5 years.
- Requiring a prethesis research paper reduces the probability to graduate in 5 years by 12%.
- If the bachelor’s degree is from a top-60 US liberal arts college the probability increases by 27% relative to other non-PhD granting institutions
- If the undergraduate school was a top-50 foreign, it increases the probability by 34%.

Final Comments

These findings can give me some insight as to my future in the next 5 years. Being a parent will not affect my time-to-graduate, which was a surprise to find. I suppose a toddler takes less direct parenting

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time for both partners than a new born. As financial aid is more likely an indication of ability sorting rather than a cause of reduced time-to-graduate, because I have received financial aid, I can expect to graduate quicker. If I receive a fellowship on top of my teacher assistantship it is a signal of my ability to more quickly graduate. It also appears that an essay style dissertation may reduce the time spent working on it. The finding that prethesis research reduces the probability to graduate in 5 years, advises me to tailor any prethesis work to align closely to my dissertation.