

What We Have Learned from the Andrew W. Mellon Foundation's Graduate Education Initiative

Ronald G. Ehrenberg
Cornell Higher Education
Research Institute

Evaluation Methodology Using the Institutional Data Base

- Estimate Competing Risk Duration Models of Students' Attrition and Completion Probabilities Each Year They Are Enrolled
- Essentially a Difference in Difference Approach

Evaluation Findings

- GEI reduced attrition probabilities, increased graduation probabilities and reduced times-to-degree; but all of these impacts were quite modest
- Financial aid matters but even with all fellowships there is still considerable attrition

The GEI Survey

- Retrospective Survey of All Students Who Had First Enrolled in Treatment and Control Departments During the 1982-96 Period
- Conducted by Mathematica for the Mellon Foundation
- Remarkable Response Rate of Over 70%

GEI Survey Continued

- Questions on educational and labor market histories (we have not yet fully exploited the latter data)
- Questions on perceptions of the characteristics of graduate programs
- The latter allow us to analyze which characteristics influence attrition and graduation probabilities and which characteristics the GEI influenced

Methodology

- **Too many characteristics to analyze each separately so we**
- **Compute the average value of each for each entering cohort year/field/institution**
- **Use factor analysis to combine these into a smaller number of characteristics**
- **Estimate how the GEI influenced each aggregated characteristic**
- **Estimate how each aggregated characteristics influences attrition and graduation probabilities**
- **Combine all of the above to influence the routes via which the GEI mattered**

Aggregated Characteristics or Factors Used in Our Analyses

- Financial
- Seminar and Course Requirements
- Exam Requirements
- Department Culture
- Advising
- Clarity
- Summer
- Dissertation Advice (indicator variables)

The GEI Was Estimated to Have

- Increased Dissertation Related Seminar Expectations
- Increased Summer Expectations
- Increase the Clarity of Program Requirements and Expectations
- Encouraged Students to Finish Dissertations Quicker (primarily at smaller programs)
- Improved Financial Support (primarily at larger programs)

What Determines Attrition?

- **Improved Financial Support Reduces Cumulative Probabilities of Attrition**
- **Improved Advising and Clarity of Program Expectations and Requirements Both Reduce Attrition**
- **Departmental Advice to Publish or Polish the Dissertation Before Graduation Increases Attrition Rates**
- **Advice to Finish as Quickly as Possible Lowers Attrition**

What Determines Completion?

- **Improved Financial Support increases graduation probabilities**
- **Increases in the Dissertation Related Seminar Factor reduce graduation probabilities**
- **Improvement in advising increases graduation probabilities**
- **Dissertation advice matters –saying publish or polish reduces graduation probabilities – saying finish quickly increases graduation probabilities**

So What Does it All Mean

- The GEI reduced attrition and improved graduation rates primarily through the routes of improved clarity of expectations and requirements, encouraging students in smaller programs to finish their degrees quickly and improving financial support at large programs
- But the magnitudes of the effects via each route were quite small

Concluding Thoughts

- Our Estimates Surely are Lower Bound Estimates (due to competitive behavior/treatment contamination)
- The variation in factor scores across programs today is much greater than the changes that the GEI induced – so there is plenty of room for improvement and our knowledge of in which areas improvement will pay off the most is very important.