

The PhD Statistician: Are There Too Many?

Keith Crank

American Statistical Association

Relevant Information

- Faculty at PhD Stat and Biostat Departments:
1824(Fall 2009)
- Students at those universities: 2.1M
- Students at other PhD universities: 3.7M
- Students at Bachelor's and Master's univ.:
5.3M

Back of Envelope Calculation

- 40 year career implies ~ 45 new hires each year (steady state)
- Based on student enrollments, would need about 78 new hires at other PhD institutions
- Similarly, need about 61 at B and M institutions (assumes double the teaching loads)
- $45+78+61 = 184$

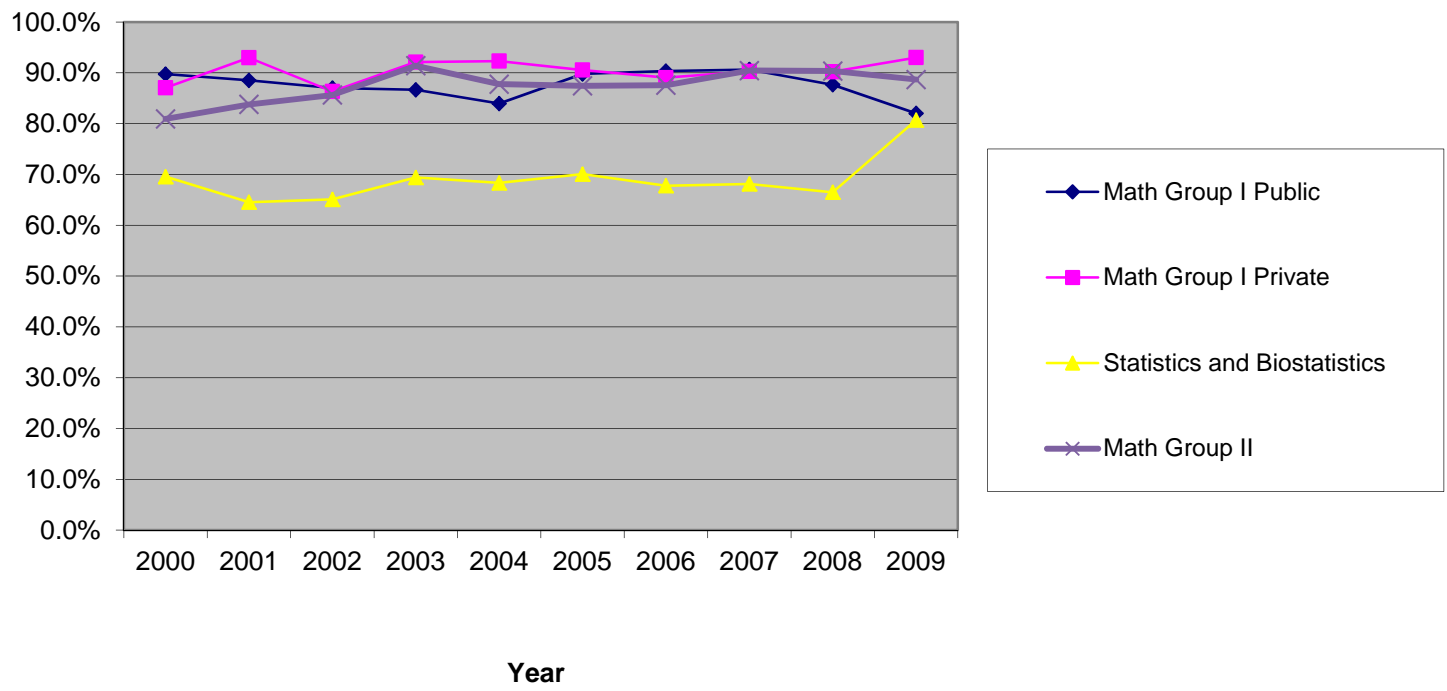
Calculation (continued)

- Business, Industry, and Government hire about 125 each year
- About 50 leave the US each year
- 75-100 go to non-math/stat/biostat departments
- Brings total to 425-450

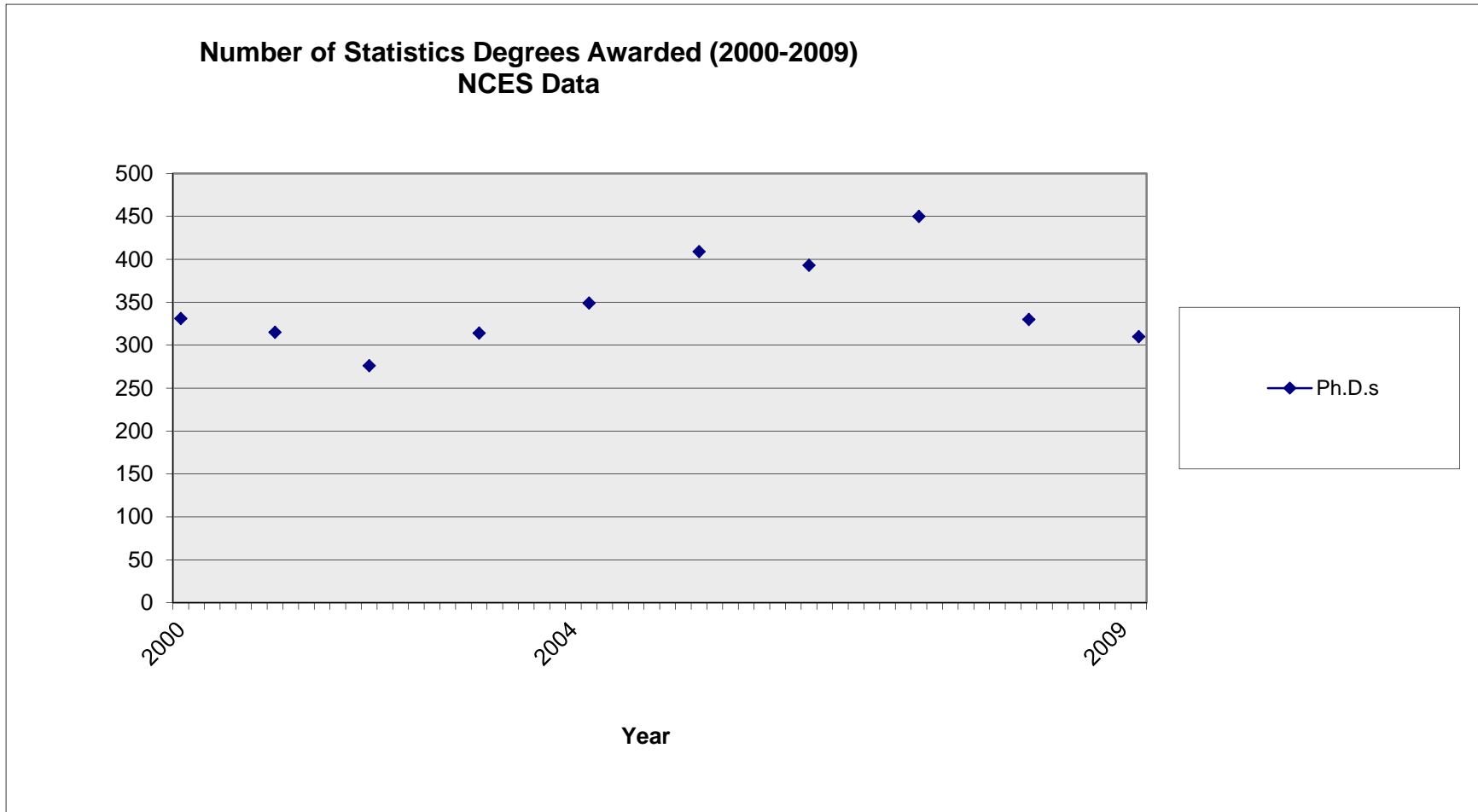
Comments on Demand

- Calculation does not include 2-year colleges (over 7M students)
- Faculty at PhD-granting Statistics & Biostatistics have increased at a rate of about 50 faculty per year over the past ten years.
- Even with this increase, many positions go unfilled.

Percent of Academic Positions Filled by Department Type



Production Information



Production Information (cont.)

- NCES shows an average around 350
- NSF shows numbers in the 400s.
- AMS and ASA surveys suggest around 500 in 2010
- But, Industry is beginning to hire again
- Government agencies claim they always have trouble hiring statisticians

References and Data Sources

- AMS Surveys:
<http://www.ams.org/profession/data/annual-survey/annual-survey>
- ASA Surveys:
<http://www.amstat.org/outreach/departmentsurveys.cfm>
- NSF/NCES: <http://www.nsf.gov/statistics/>
- Amstat News:
<http://magazine.amstat.org/blog/2011/07/01/the-phd/>