Findings from the 2007-08 Survey of Earned Doctorates

Council of Graduate Schools
Education Research & Policy Forum

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SED Project Officer

National Science Foundation
Division of Science Resources Statistics
www.nsf.gov/statistics
Agenda

1. 2007 & 2008 in Context
   • Field of study
   • Gender
   • Race/ethnicity
   • Citizenship at time of doctorate

2. Educational History
   • Time to degree
   • Graduate school debt

3. Postgraduation Plans
   • Definite commitments
   • Employment vs. postdoc
   • Sector of employment
   • Location of employment
   • Salary
Survey of Earned Doctorates

• **Annual census** of all individuals receiving **research doctorates** from U.S. institutions

• Conducted annually since 1957-58; cumulative database includes data back to 1920

• **Response**
  - 48,112 doctorate recipients in 2007, 48,802 in 2008
  - Response rate at least 91% since 1976
Doctorates awarded by U.S. colleges and universities: 1957-2008

(approx.) 50K expected in 2009

Doctorates awarded in Science & Engineering (S&E) and non-S&E fields: 1988-2008

Number of doctorate recipients

non-Science & Engineering

Science & Engineering

62.5% of total

67.3% of total

Doctorates awarded, by citizenship status: 1988-2008

Doctorates earned by temporary visa holders, by broad field of study: selected years, 1988-2008

Doctorates awarded, by sex: 1988-2008

Doctorates earned by females, by citizenship status: selected years, 1988-2008

Doctorates earned by females, by broad field of study: selected years, 1988-2008

Females as % of total

Life sciences  | Physical sciences  | Social sciences  | Engineering  | Education  | Humanities  | Other fields

Increase in proportion of female doctorates from 1998 to 2008, by major field of study (S&E)

Increase in proportion of female doctorates from 1998 to 2008, by major field of study (non-S&E)

Doctorates earned by racial/ethnic minorities: 2001-2008

Interim Summary #1

• Growth in # doctorate awards slowed in 2008 (and 2009)

• Continuing trends:
  o Increasing proportion of S&E doctorate recipients
  o Increasing proportion of female doctorate recipients
  o Increasing proportion of temporary visa holder doctorate recipients
  o Increasing proportion of minorities among U.S. citizen and permanent resident doctorate recipients
Median time-to-degree, by broad field of study: selected years, 1988-2008

Median time-to-degree, by major field of study (S&E): 2008

- Sociology
- Psychology
- Political science
- Economics
- Anthropology
- Mechanical
- Materials
- Electrical
- Civil
- Chemical
- Physics & astronomy
- Mathematics
- Earth, atmos. & ocean
- Computer science
- Chemistry
- Health sciences
- Biological sciences
- Agricultural sciences

Median # years from start of grad school to receipt of doctorate

Median time-to-degree, by major field of study (non-S&E): 2008

Median time-to-degree, by citizenship status and broad field of study (2006-2008)

Median # years from start of grad school to receipt of doctorate

- U.S. Citizens & Permanent Residents
- Temporary Visa Holders

Median time-to-degree, by citizenship status and broad field of study (2006-2008)

Median time-to-degree, by primary source of financial support and broad field of study (2006-2008)

Median # years from start of grad school to receipt of doctorate

% of doctorate recipients with zero grad school debt, by broad field of study: 2006-2008

Interim Summary #2

- Slight declines in time-to-degree since 1998 in most broad fields
  - Temporary visa holders: longer time-to-degree than U.S. citizens and permanent residents in S&E fields, *shorter in non-S&E fields*

- Time-to-degree varies by primary source of financial support
  - Fellowship recipients generally have shortest time-to-degree
  - For those relying primarily on own resources: *shorter time-to-degree for loans and family-$ support*

- Recent slight increases (across all fields) in % of doctorate recipients with some debt
Definite postgraduation commitments, by broad field of study: 1988 and 1998-2008

Definite postgraduation commitments, by broad field of study: selected years, 1988-2008

Definite commitments, by major field of study (S&E): 2008

Definite commitments, by major field of study (non-S&E): 2008

Definite commitments for postdoc, by broad field of study (S&E): 1998-2008

Definite commitments for postdoc, by major field of study (S&E): 2008

% of doctorate recipients with definite commitment who have postdoc commitment

Definite commitments for U.S. employment in academe, by broad field of study (S&E): selected years, 1998-2008

Definite commitments for U.S. employment in academe, by major field of study (S&E): 2008

- Sociology
- Psychology
- Political science
- Economics
- Anthropology
- Mechanical
- Materials
- Electrical
- Civil
- Chemical
- Physics & astronomy
- Mathematics
- Earth, atmos & ocean
- Computer science
- Chemistry
- Health sciences
- Biological sciences
- Agricultural sciences

% of doctorate recipients with definite U.S. employment commitment in academic sector

Definite commitments for U.S. employment in academe, by major field of study (non-S&E): 2008

% of doctorate recipients with definite U.S. employment commitment in academic sector

“Stay rate” of temporary visa holders with definite commitments, by broad field of study: 1988 and 1998-2008

"Stay rate" of temporary visa holders with definite commitments, by major field of study: 2008

% of temporary visa holders with definite commitments to locate in U.S. after graduation

Interim Summary #3

• Declines in % of doctorate recipients with definite commitments in all broad fields in 2007
  o Further declines in 2008 in all but 2 broad fields

• Since 1998, an increasing share of S&E doctorate recipients with definite commitments are taking postdoc positions

• Since 1998, an increasing share of doctorate recipients (in all broad fields) with definite employment commitments are taking academic positions

• Increasing % of temporary visa holders – in all broad fields – have definite commitments to stay in U.S. after graduation
**Sample Table 1 for New Salary Item**

Sample Table 1. Salary of doctorate recipients with definite postgraduation employment commitments in the United States, by employment sector and broad field of study: 2008

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<th>Employment sector and salary and sector</th>
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<th>Life sciences</th>
<th>Physical sciences</th>
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### Sample Table 2 for New Salary Item

**SAMPLE TABLE 2. Salary of doctorate recipients with definite commitments for employment or postdoctoral study, by broad field of study: 2008**

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<th>Type of definite commitment</th>
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For further information on the SED:

- Doctorate Recipients from U.S. Universities: Summary Report 2007-08  