



The Path Forward: The Future of Graduate Education in the United States

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Educational Testing Service

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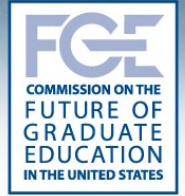
Why this Commission?

The **key assumption** is that U.S. competitiveness and future prosperity depend critically on our capacity to produce top-notch doctoral and master's degree holders prepared to address the challenges and opportunities of the 21st century

What is the Commission's purpose?

To provide an empirical basis to support the assumption and provide policy recommendations about the role of graduate education in ensuring our continued national prosperity

Who served on the Commission?



Corporate Leaders

- Thomas Connelly, DuPont
- Roger Ferguson, TIAA-CREF
- Stanley Litow, IBM
- Richard Parsons, Bank of America
- Ronald Townsend, Battelle
- John Seely Brown, Xerox

University Leaders

- Gene Block, UCLA
- Ronald Mason, Jackson State University
- John Wiley, University of Wisconsin
- Scott Bass, American University
- Suzanne Ortega (Vice-Chair), University of New Mexico

University Leaders (cont'd)

- Karen DePauw, Virginia Polytechnic Institute & State University
- Jeffery Gibeling, University of California Davis
- Patrick Osmer, The Ohio State University
- William Russel (Chair), Princeton University
- Liora Schmelkin, Hofstra University
- Susan Stites-Doe, College at Brockport, SUNY
- James Wimbush, Indiana University

Ex Officio Members

- Kurt Landgraf, ETS
- Debra Stewart, CGS



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What We Learned: Report Findings

Report Organization

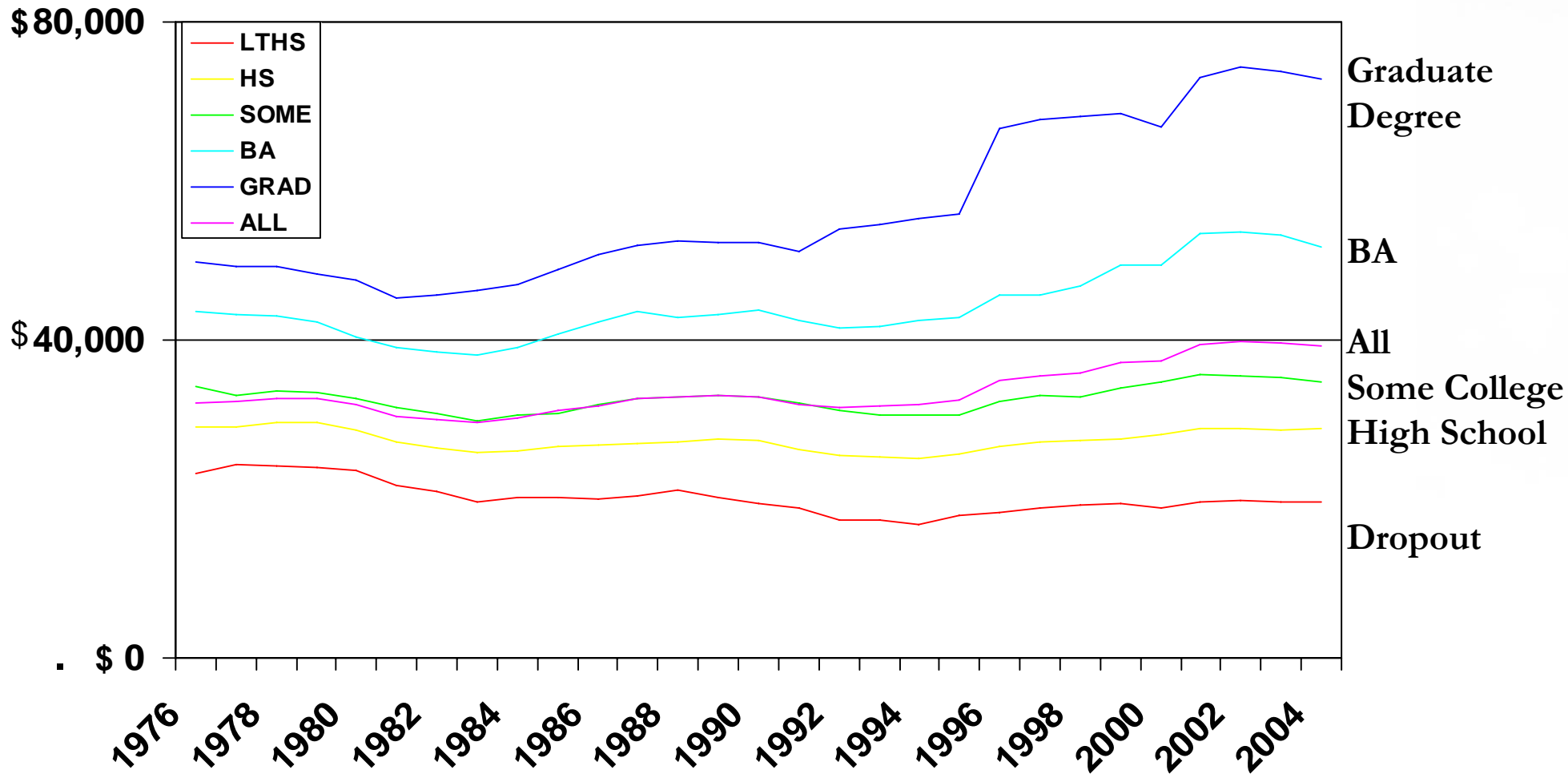
- **Introduction**
 - Why focus on graduate education?
 - Threats to the U.S. system
 - The path forward
- **Trends**
 - Pathways to graduate school
 - Graduate degree recipients
 - International competition
- **Vulnerabilities**
 - Attrition, completion, careers
 - Expectations, future jobs
 - Debt, financial support
- **Recommendations**
 - Universities
 - Industry
 - Government

Graduate Education as the Source for a Highly Skilled Workforce



- **Career opportunities and national need**
 - The knowledge-based economy of the 21st century increasingly requires the advanced knowledge and skills acquired in graduate school
 - Graduate education trains creative thinkers able to produce cutting-edge, interdisciplinary research
 - Number of jobs requiring a graduate degree to grow by 2.5 million by 2018: masters +18% PhD's +17%
- **Student aspirations**
 - 50% increase in enrollment since since early 1980s
 - # of doctoral degrees growing faster than population

And the market is rewarding graduate education



Source: Council of Graduate Schools, *Graduate Education in 2020*

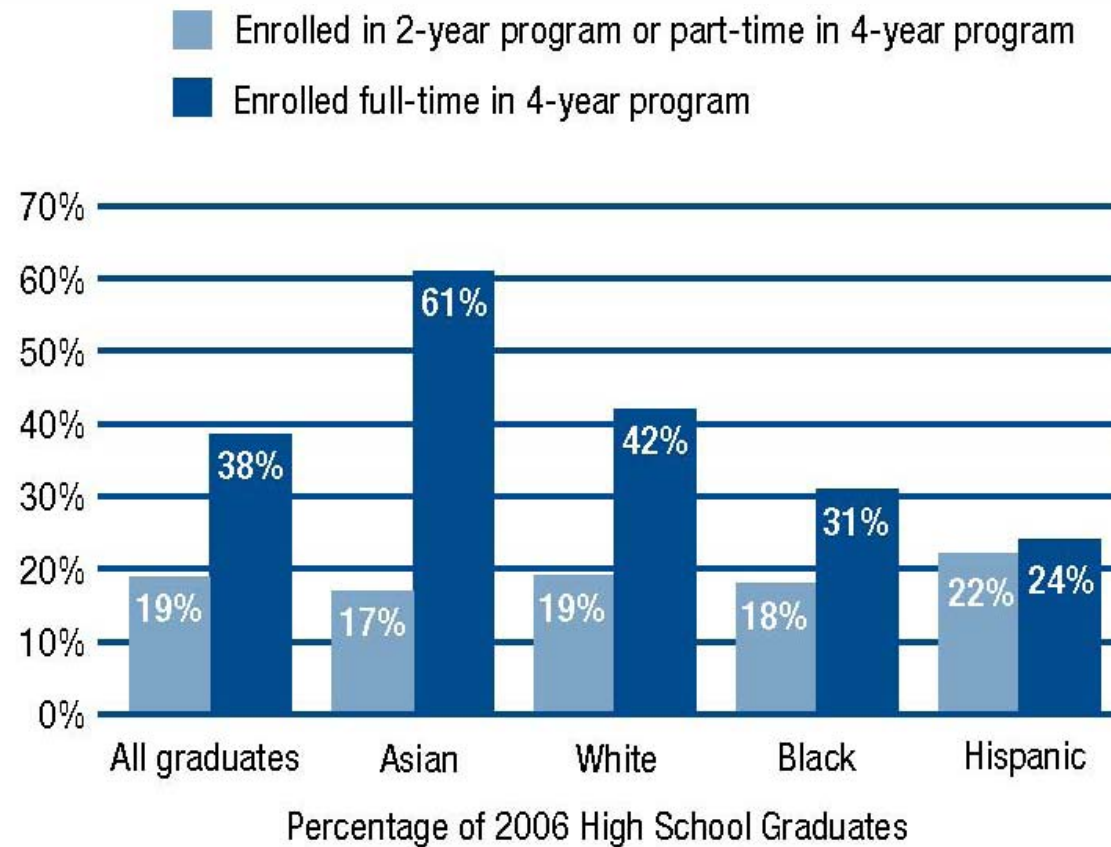


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Demographic Trends

- The changing demographics in the U.S. pose serious challenges for assembling a diverse pool of qualified U.S. applicants for graduate school



Source: Davis, W. J., & Bauman, K. J. (2008). *School enrollment in the United States: 2006*. Washington, DC: U.S. Census Bureau.

Demographic Trends

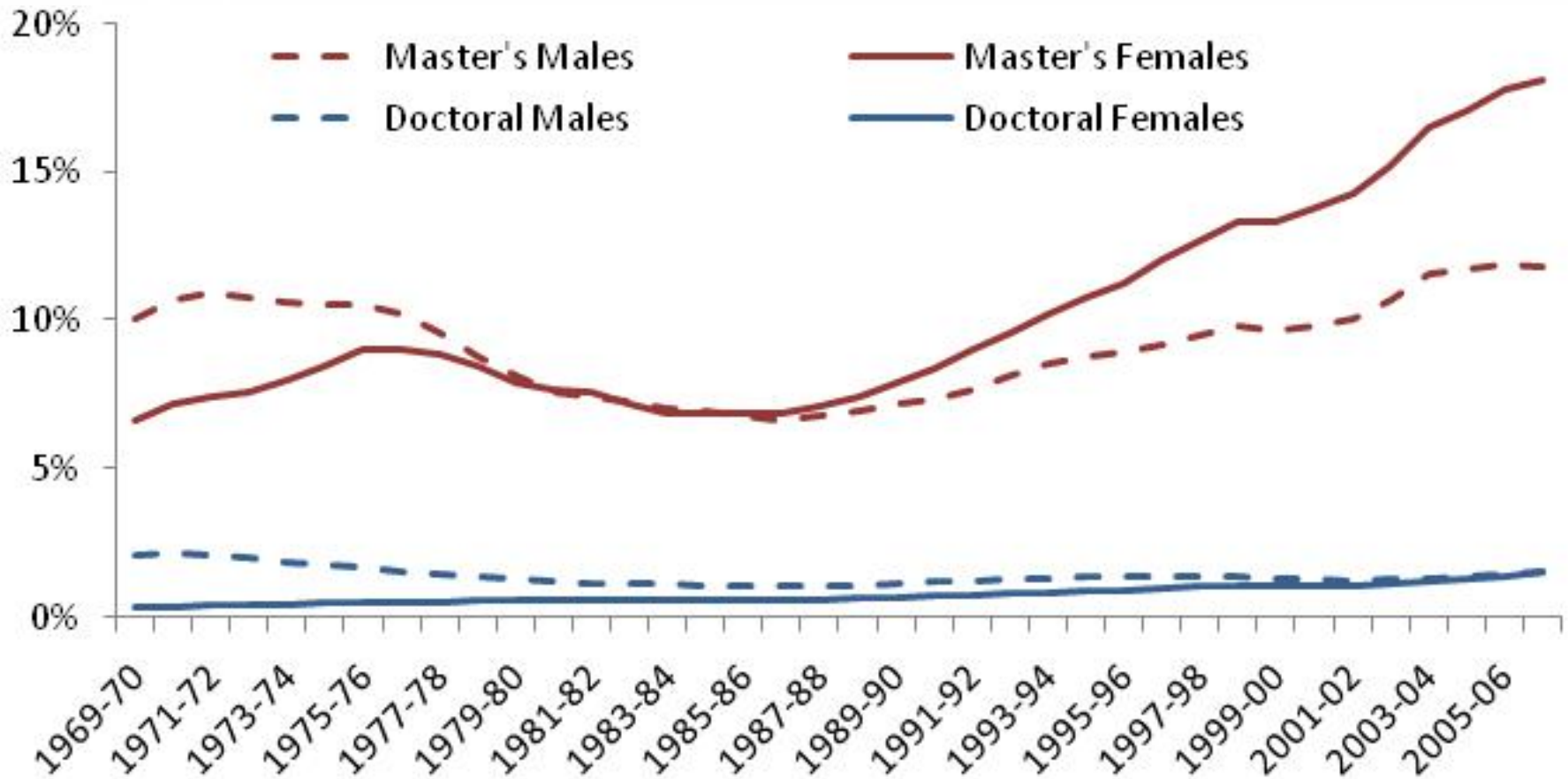
High School Sophomores Reported Degree Aspirations

| | Less than Bachelor's | Bachelor's | Graduate |
|----------|----------------------|------------|----------|
| White | 19% | 40% | 41% |
| Black | 30% | 40% | 30% |
| Asian | 13% | 37% | 50% |
| Hispanic | 30% | 40% | 30% |

Source: Council of Graduate Schools. (2008). Data Sources: Aspirations to graduate school. *CGS Communicator*, 41(4), 4-5.

Gender Trends

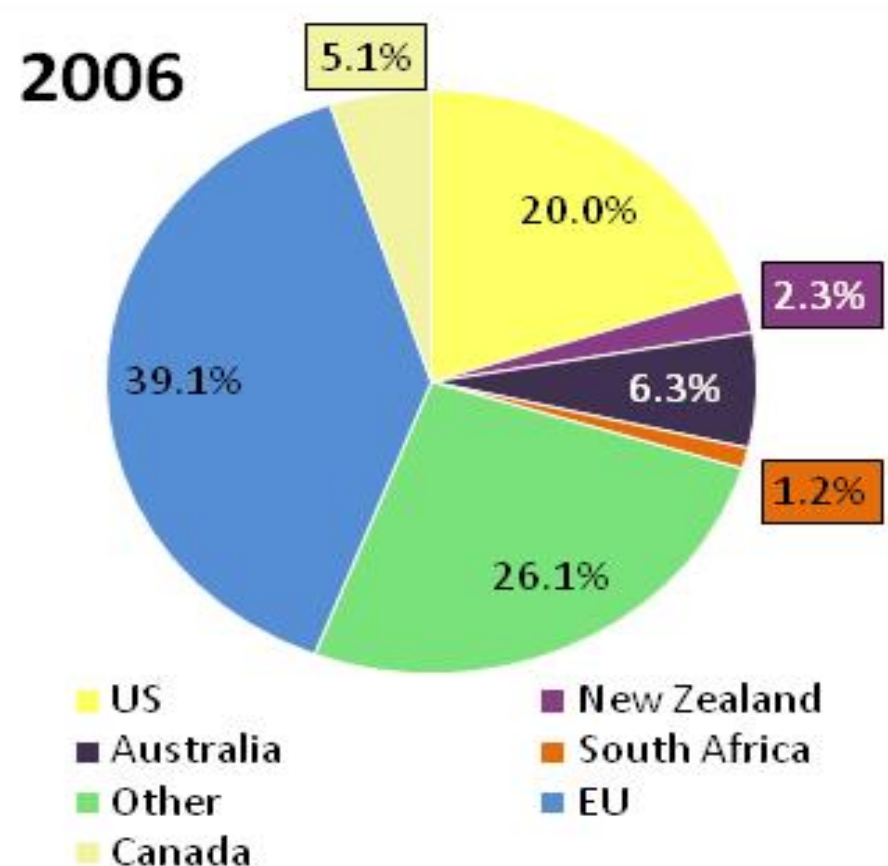
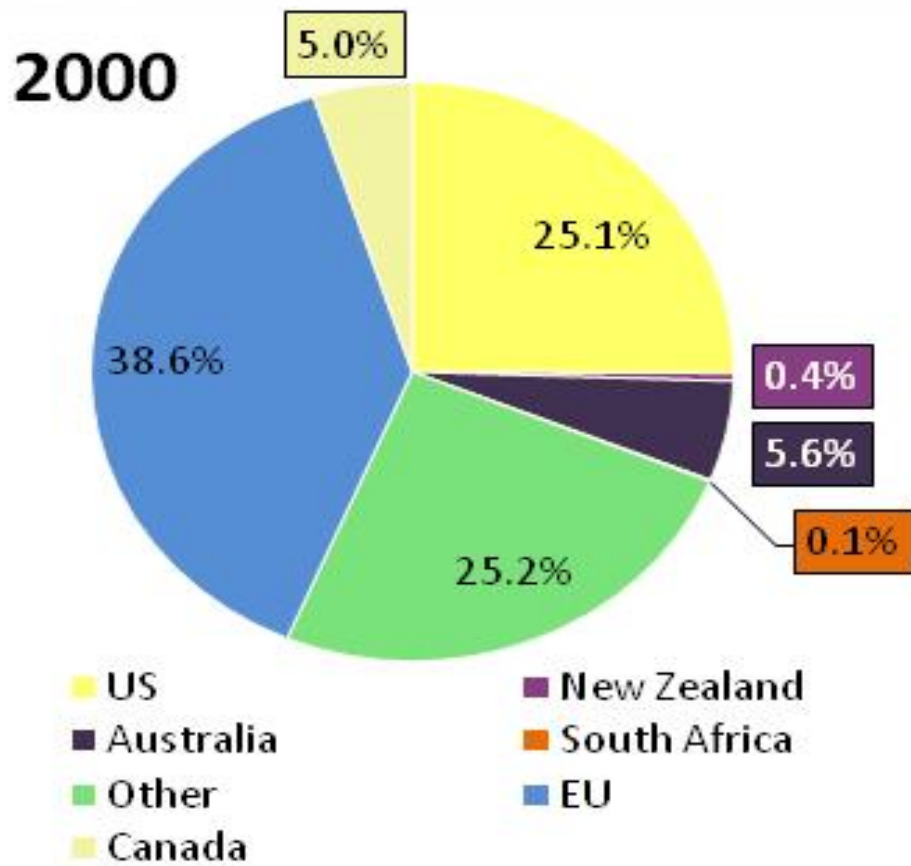
- **Women comprise 59% of graduate students as well as most of the masters and half of the doctoral degrees**



Degrees conferred 1969 to 2006 as percent of population (ages 25–35)

International Trends

- Shrinking US share of international student market

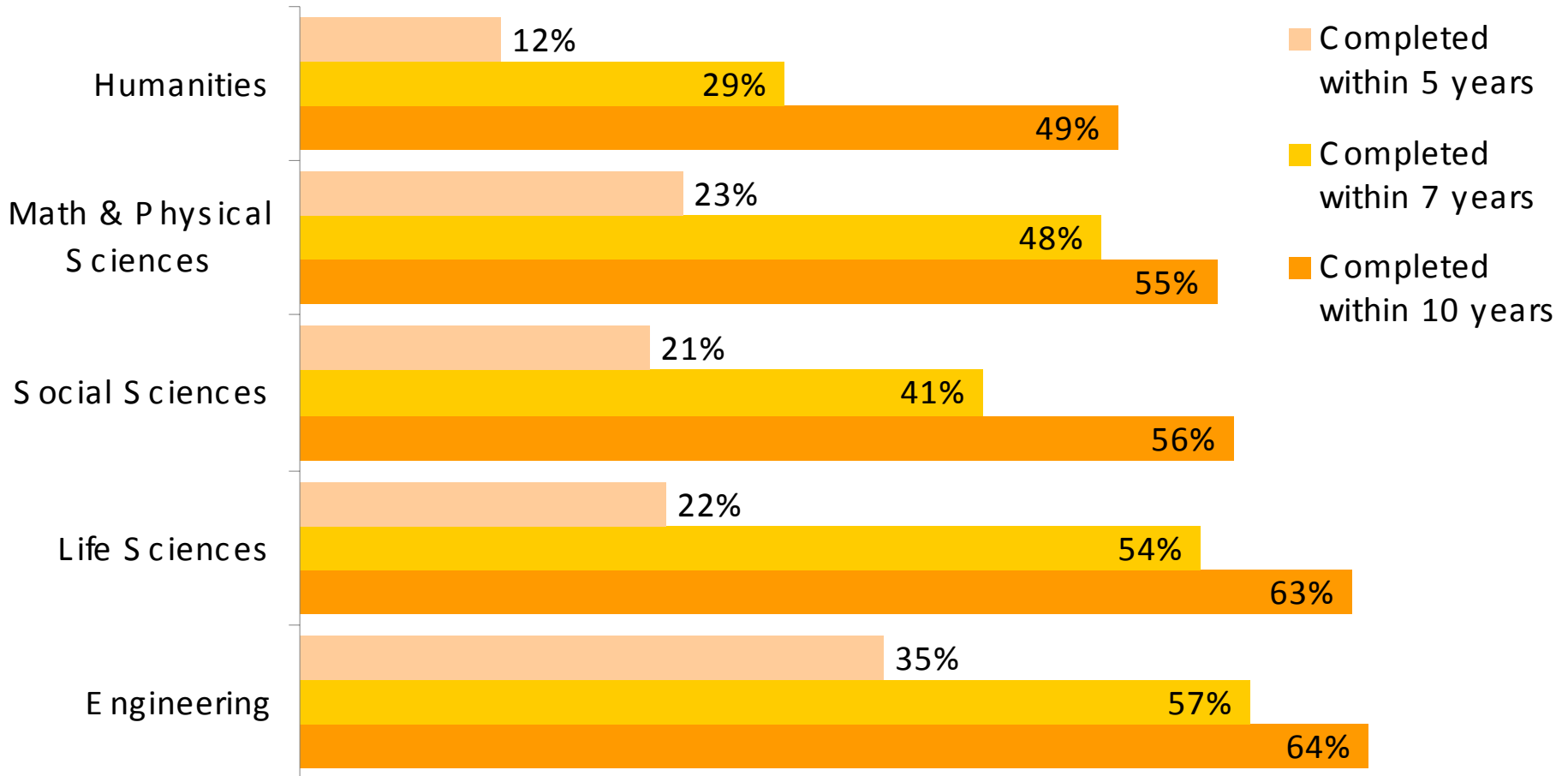


International Trends

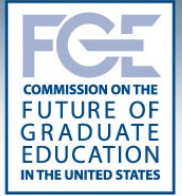
- **Other countries** recognize graduate education and human capital development as engines of economic competitiveness
- **International students** have increasing options
 - China and India are investing substantially in graduate programs
 - Canada, Australia, and others are more welcoming to internationals
 - International students educated in the US increasingly find viable career options in their home countries
- Europe and China now produce **more doctorates** in the sciences and engineering than the U.S.

Area of Vulnerability

- The current state of attrition and completion in U.S. doctoral programs wastes human and financial resources



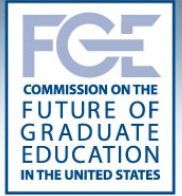
Area of Vulnerability



- **Many attractive career paths outside of the academy exist for Ph.D. graduates but are not readily visible**
- **Jobs within and outside of the academy increasingly demand skills beyond those imparted in traditional programs (e.g., the ability to acquire new skills, hybrid training, intercultural and international competence)**



Area of Vulnerability



- **The significant debt at graduation among graduate students who borrow (e.g., master's \$50k, doctorate \$77k)**
- **The current structure of federal support for graduate students pursuing doctorates and research masters emphasizes research, not education, and does not support cost of education**

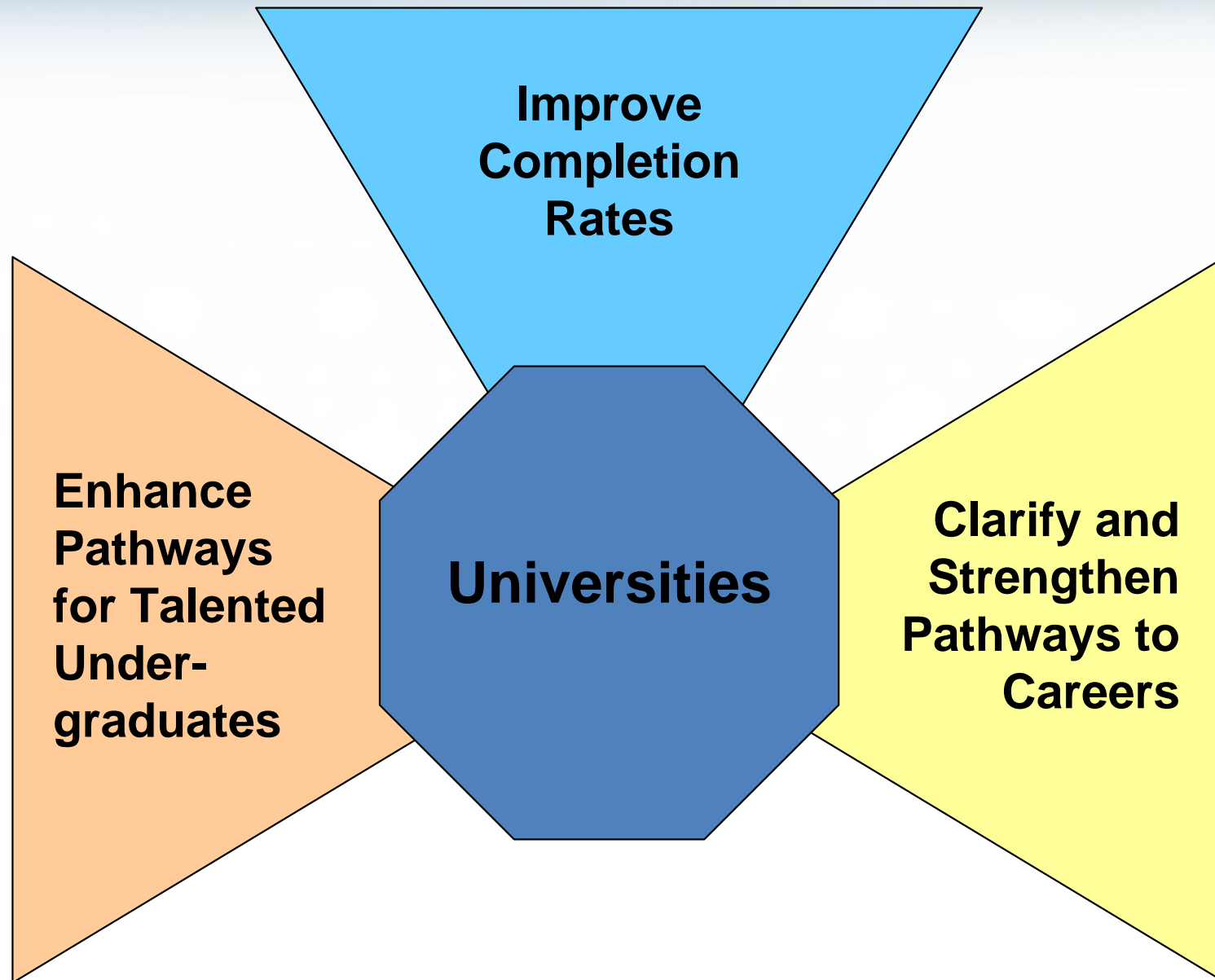


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Moving from Findings to Action

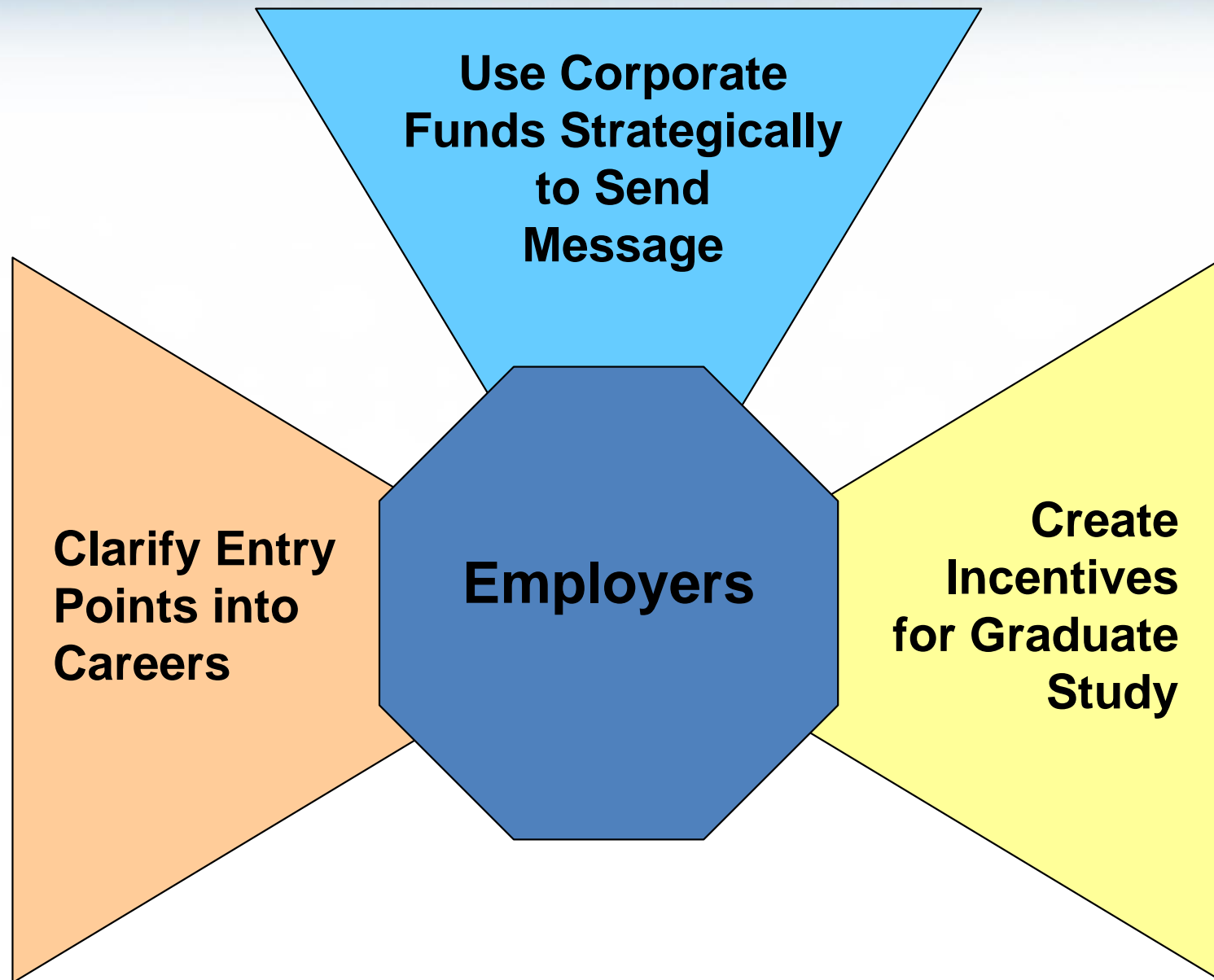
Recommendations for Universities



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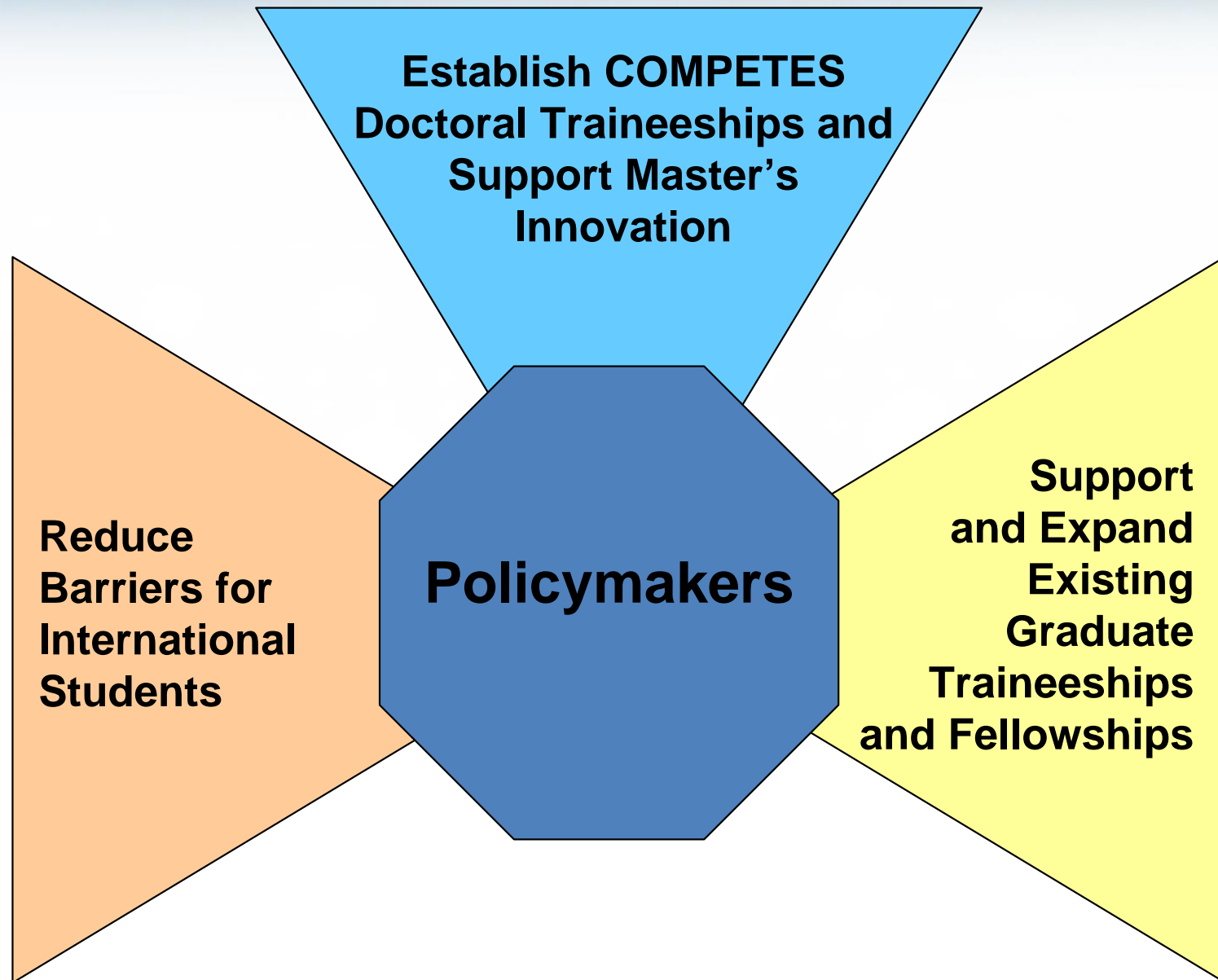
Recommendations for Employers



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Recommendations for Policymakers



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The Path Forward

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