

Trends & Challenges in Canadian Graduate Education

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TRANS-DOC Closing Seminar:
Transferability Across the Atlantic—Brussels

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Canadian Context

- Approximately 100 “recognized” degree granting institutions in Canada
- \$30B enterprise in Canada; \$10B in research activities
- 1.2M students (undergraduate + graduate)
- 73 institutions have graduate programs (only 36 offering doctoral)
- 160,000 students enrolled in graduate programs

U15 Universities

- Dalhousie University
- Université Laval
- Université de Montréal
- McGill University
- University of Ottawa
- Queen's University
- University of Toronto
- University of Waterloo
- Western University
- University of Manitoba
- University of Saskatchewan
- University of Calgary
- University of Alberta
- University of British Columbia

U15 universities
account for more than
55% of all Canada's
graduate students

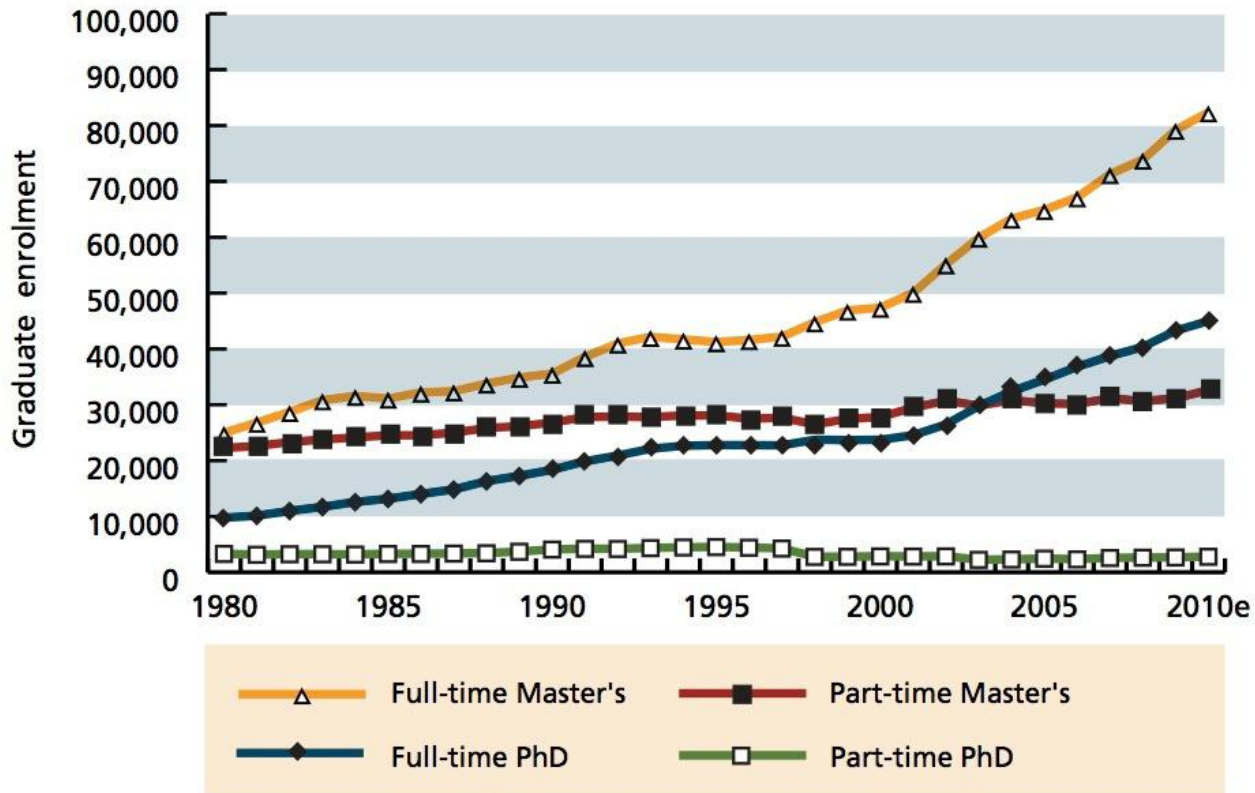
Key issues for Graduate Education in Canada

- 1) Supply & Demand
- 2) Graduate Funding
- 3) Length & Completion Rate
- 4) Transferrable Skills
- 5) Internationalization
- 6) A Global Perspective

1) Supply & Demand—1990s

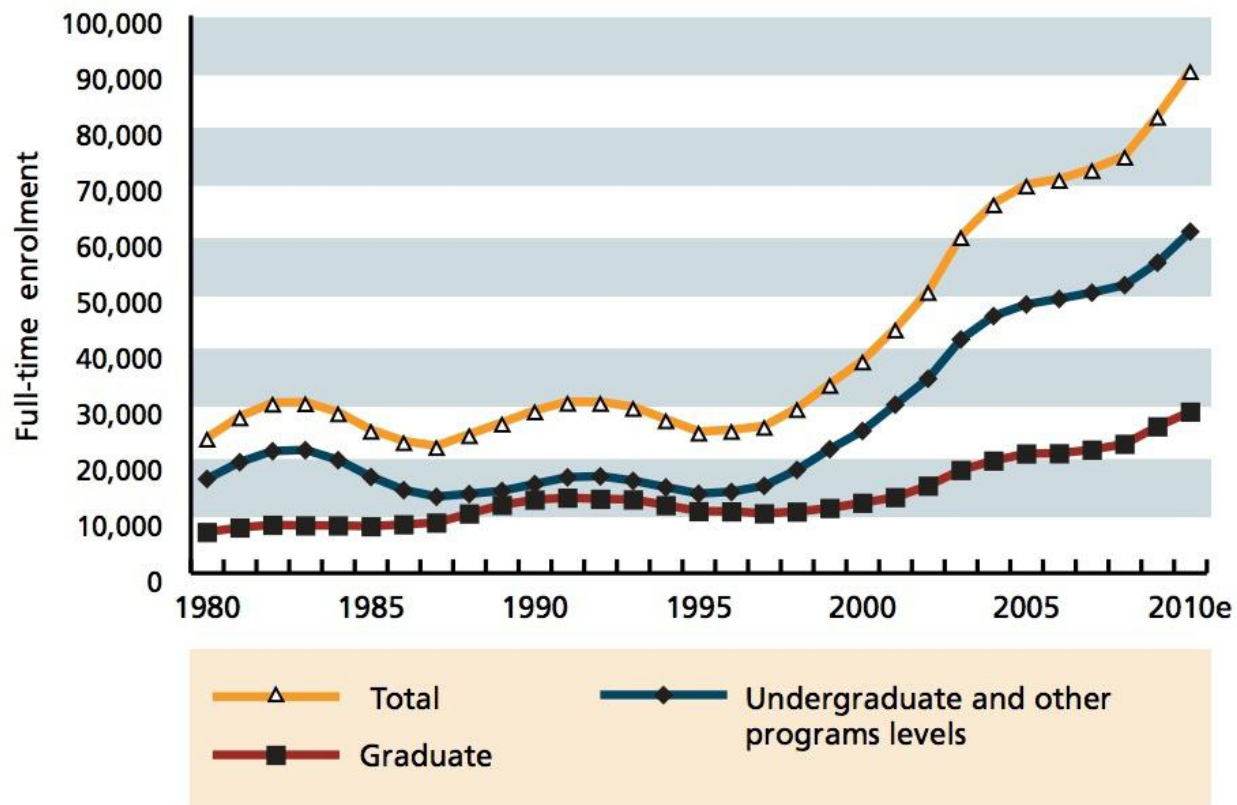
- World labor markets generated a growing demand for post-graduate degrees
- Canadian numbers trailing behind many industrialized countries
 - > Canadian universities trying to expand PhD numbers, turning to international markets
- Enrolment has increased substantially
 - > International students now contribute \$6.5B annually to Canadian economy

Canada's Graduate Enrolment



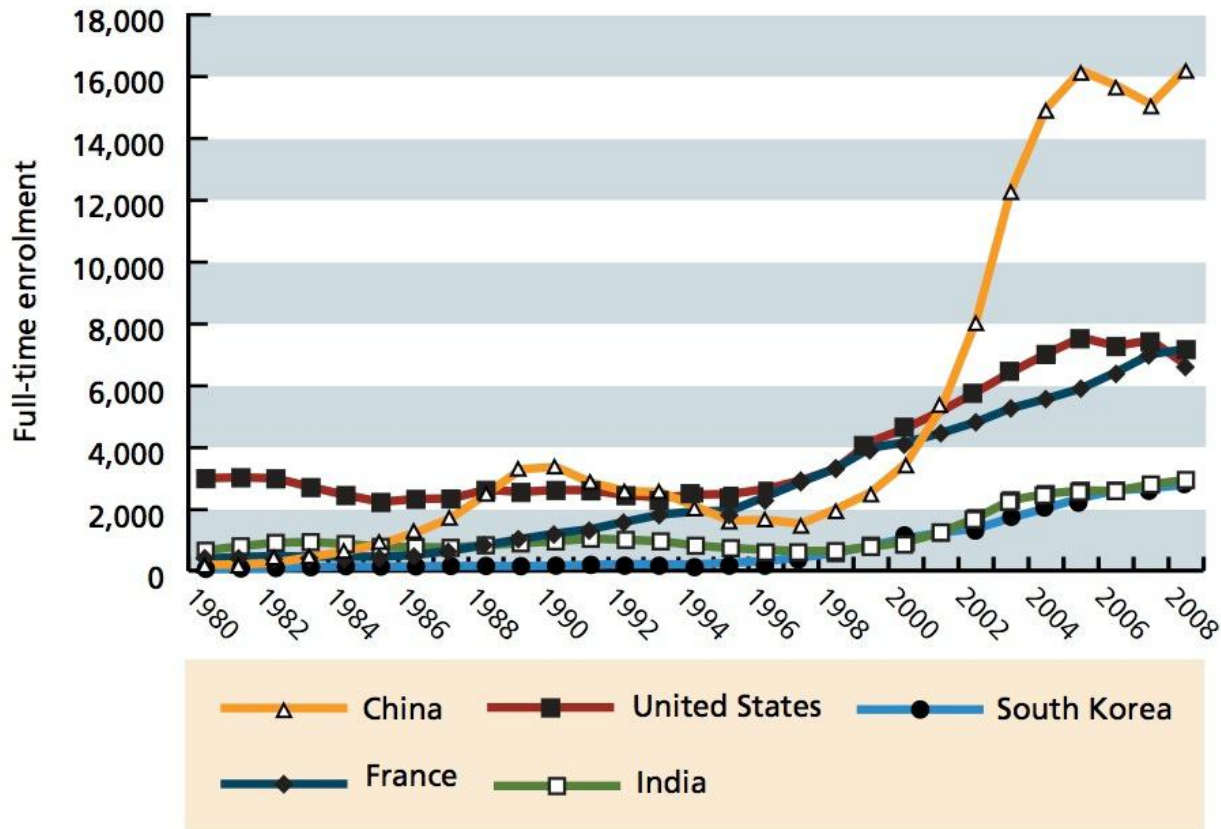
Source: Statistics Canada data and AUCC estimates

Canada's International Enrolment



Source: Statistics Canada data and AUCC estimates

Canada's International Enrolment by Country



Source: Statistics Canada data and AUCC estimates

1) Supply & Demand—Current State

- Demand for PhD graduates still exists worldwide
 - > Developing regions (Latin America and Africa) seeking PhD academics for growing higher education systems
- The more...the better?
Still true; but are we producing the type of grads society needs?
 - > Limited positions in academia:
 - PhD students who end up doing research: 30-50%
 - Changing demographics have student intake on downward trajectory
= fewer profs required
 - > Many unemployed and 'over-qualified' PhD graduates;
bachelor and master's grads competing for the same jobs and getting them
- But: What kind of PhDs?

Challenge: Is the classical PhD helping students achieve in labor sectors beyond academia?

2) Graduate Funding

- Graduate students do quite well during the early years of program:

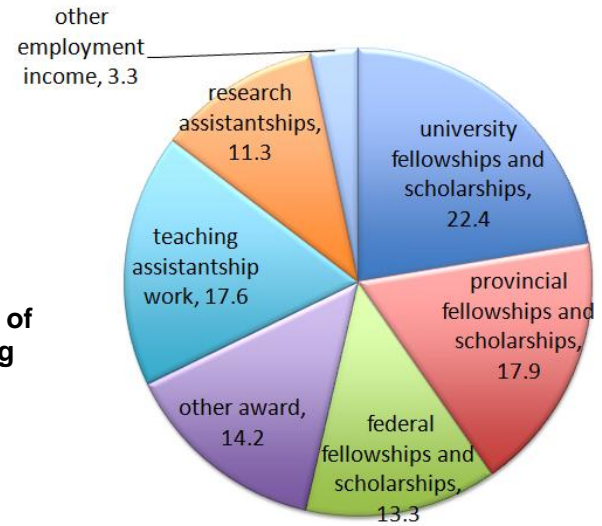
University of Alberta

Virtually all PhD students funded at average rate of \$22,000 per year

University of Calgary

Average support of \$19,600/year
in 2009-10

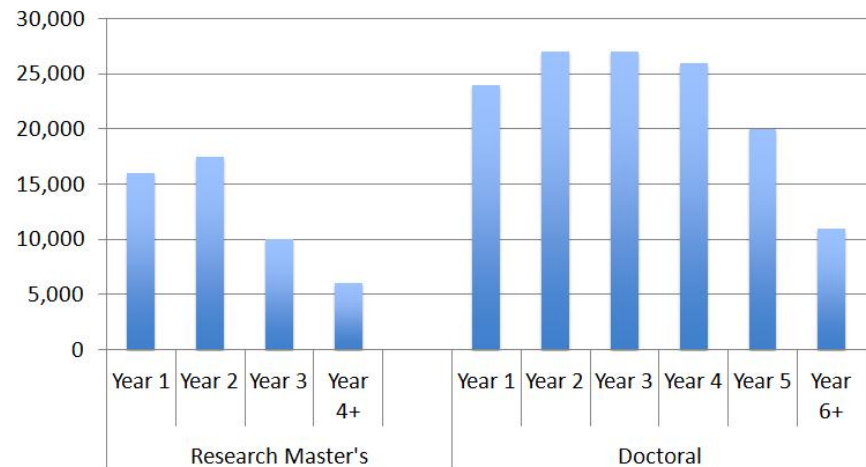
University of
Calgary—Source of
Graduate Funding



2) Graduate Funding (cont)

- Nationally—approximately \$20,000+ in early years but trails off in latter years

U15 Universities:
Graduate Student Support
by Year of Study
2009-10



- National support from Canada's research councils decreases dramatically (eg. 2011 NSERC down by approx 25%)

Challenge: Not enough money nationally to maintain traditional levels of funding for expanded number of students

3) Length & Completion Rate

- Time to completion:
 - > Canada: Average time to completion for PhD is 5.9 years
 - > US: Data suggests up to 8-9 years
 - > Europe: Bologna process has reduced time to completion, but still approx 5 years (3 years PhD, built upon 2 years master's)
- Completion rates = 45-50% for Social Sciences and Humanities
75% for Other Disciplines
(Canadian Association Graduate Studies survey, 2005)

Challenge: Are we efficient enough?

4) Transferrable Skills

- Labor markets are requiring skill-sets not directly produced by traditional PhD, also in academia
- Interdisciplinary and internationalization in demand
- Broadening the curriculum and 'reinventing the PhD' are required to produce trans-disciplinary skills that are increasingly sought after, such as:
 - > Managerial Expertise
 - > Project and Time Management Abilities
 - > Communication & Interpersonal Relations

4) Transferrable Skills (cont)

- Canada:

MITACS

Industry Internships

International Doctoral Schools

NSERC Create-DFG Model—co-financing of projects where graduate students are taught as team and directly linked to another country

University of Ottawa

Business School providing career development programming to PhD students

Challenge: Transferrable skills training often ad hoc, not mandatory and not systematic

5) Internationalization

- Recruitment
 - > Not if—but how many and from where?
- Scholarship Programming
 - > Fragmented both nationally and institutionally, eg. Vanier and Banting Programs
 - > August 2012—Government of Canada Advisory Panel on International Education
 - Call for a “unified flagship scholarship program that is recognized the world over” and better alignment of international research grants through tri-council’s with an emphasis on small number of priority countries

5) Internationalization (cont)

- National Recruitment Strategy
 - > Decentralized model in Canada has hindered international recruitment
 - > Recent success: Brazil's Science without Borders—Canada has attracted over 800 students

Challenge: Coordinated, targeted national strategy, and internationalizing experiences for Canadian students (joint and dual degree programs)

6) A Global Perspective

- Canada has openly embraced international students and created mechanisms for work in Canada after graduation:
 - > CIC post graduate work permit program allows working in Canada for up to 3 years
- Could a 'distribution of labor' be considered around the world?
- Is 'Brain Drain' an obsolete concept?
- Is over-production of PhD graduates an obsolete concept in a globalized labor market?



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Thank you!

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