

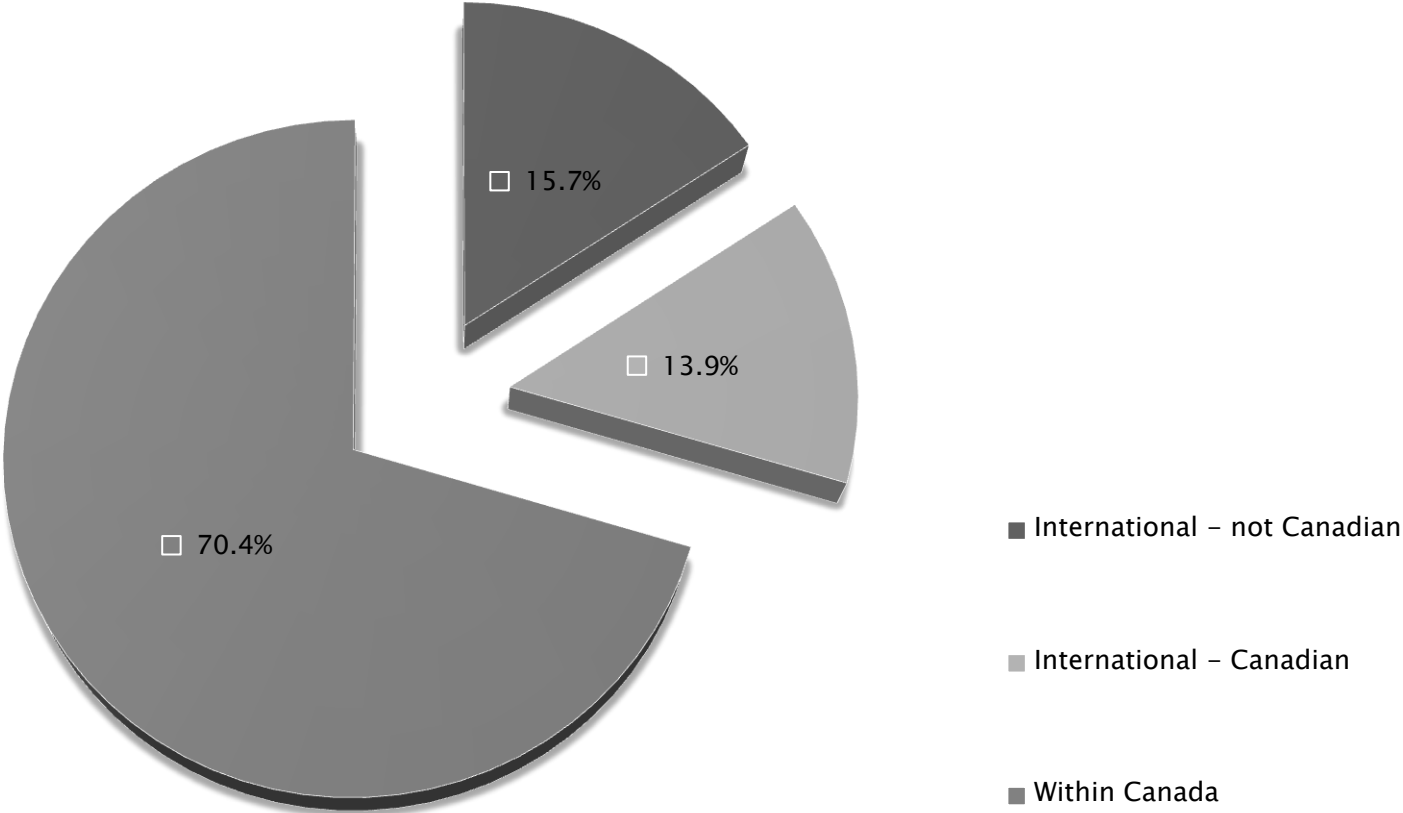
What factors influence the direction of global brain circulation

**The case of Chinese holders of
Canada Research Chairs**

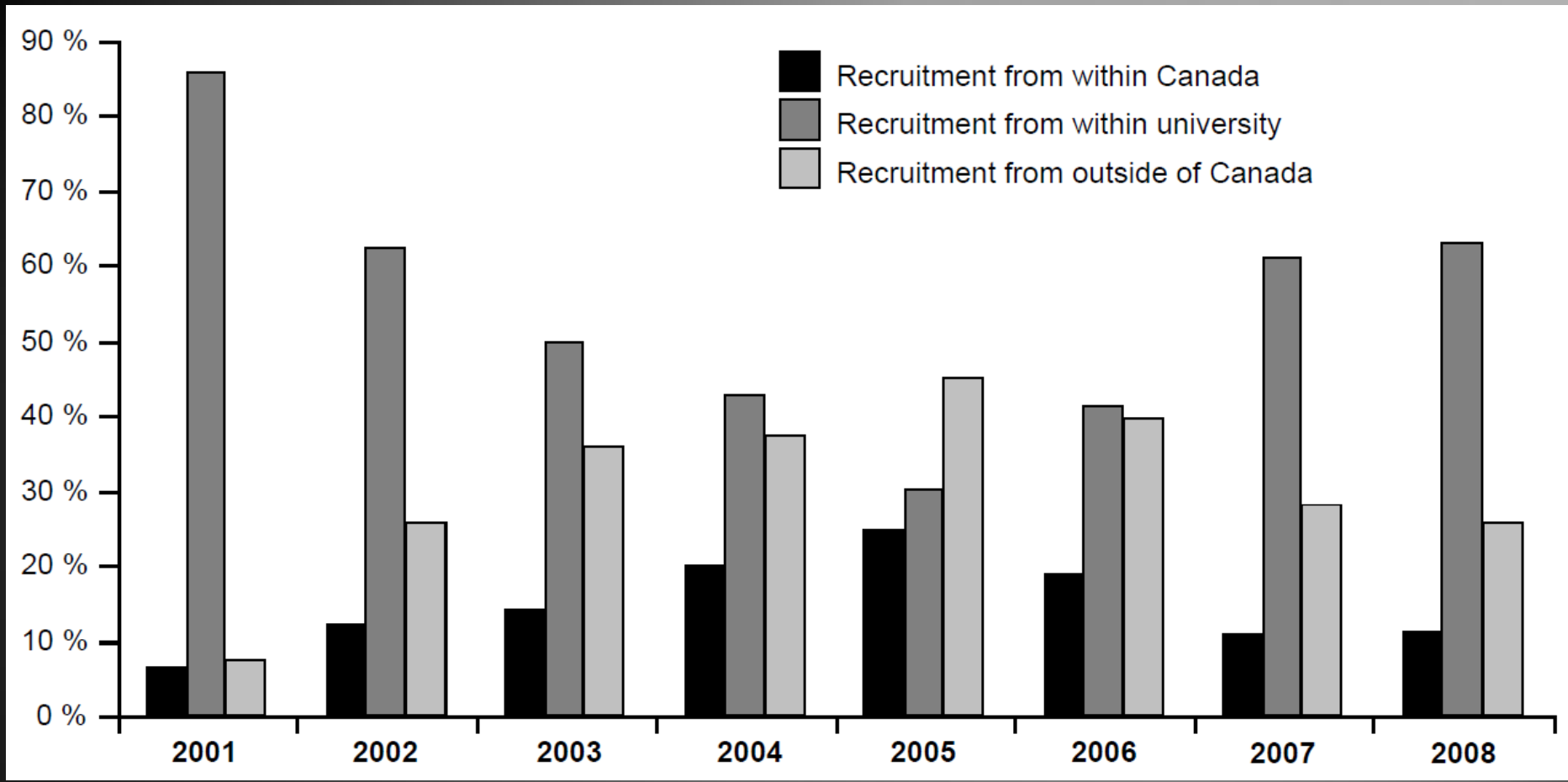
Canada Research Chair Program: an overview

- ▶ In 2000, the Government of Canada created a permanent program to establish 2,000 research professorships (Canada Research Chairs) in Canadian universities.
- ▶ The Canada Research Chairs program invests \$300 million per year to “attract and retain some of the world’s most accomplished and promising minds.”
- ▶ As of November 2010, a total of 1,845 Canada Research Chair positions were filled, among whom 546 chairholders were recruited from abroad, including 344 from the US.

Recruitment of Canada Research Chairs from Within and Outside Canada (as of November 2010)



Source: CAUT Almanac of Post-Secondary Education in Canada 2011-2012, p. 49.



CRC Recruitment origin by year, 2000-08 >>

Source: CRCP, 2009a

Canada Research Chair Program: a comparative view

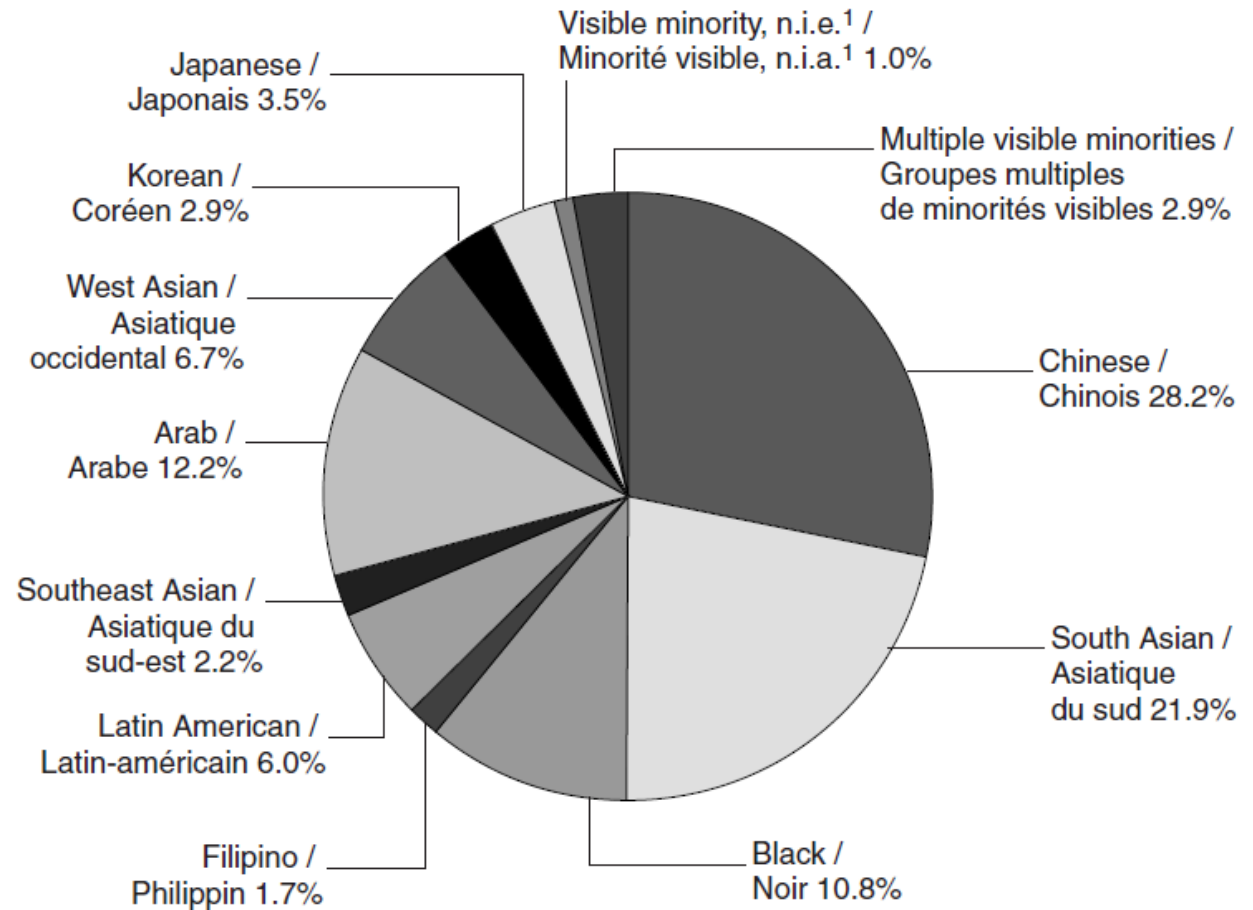
- ▶ Presidential Young Investigator Award (CAREER) and Presidential Early Career Awards for Scientists and Engineers (PECASE) (USA, offering funding up to \$640,000 over a 5-year period for junior researchers)
- ▶ Federation Fellowship Program (Australia, \$221,261 annum)
- ▶ Marie Curie Program (EU, \$410,161 annum)
- ▶ Humboldt Research Awards (Germany, valued at 60,000 EUR over 1-year period)
- ▶ One Hundred Talent Program (\$450,000 over 3-year period)
Cheung Kong Scholar Program (\$200,000 over 3-year period), Thousand Talent Program (\$450,000 startup + \$100,000 annum) (China)

Research Design: the sample

Province	Tier		Council			Gender		Total
	I	II	NSERC	SSHRC	CIHR	Male	Female	
Alberta	1	2	2		1	2	1	3
BC	2	2	2	2		2	2	4
Ontario	7	9	13		3	15	1	16
Quebec	2	2	4			4		4
NB	1	1	2			2		2
NS		1		1		1		1
Total	13	17	23	3	4	26	4	30



Visible Minority Faculty in Canadian University by Group, 2006



SOURCE: Statistics Canada / Statistique Canada

The Research Questions

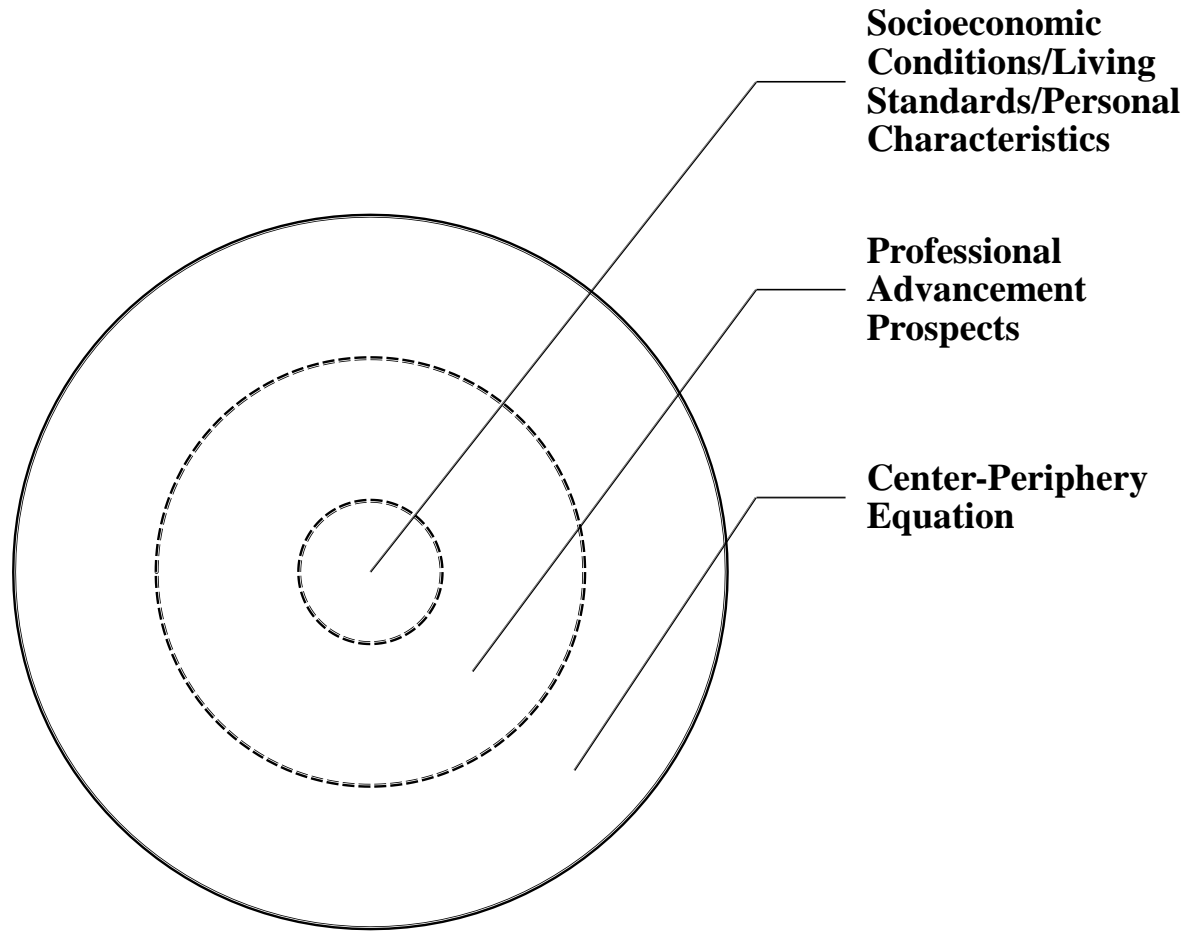
- ▶ **What elements are important in your decision making to work in Canadian universities?**
- ▶ **What factors do you appreciate most/least about your current position, your institution, and Canada?**
- ▶ **After the term of your current appointment, will you stay in your institution or in Canada?**
- ▶ **What can be done to improve CRCP?**

Analytical Model



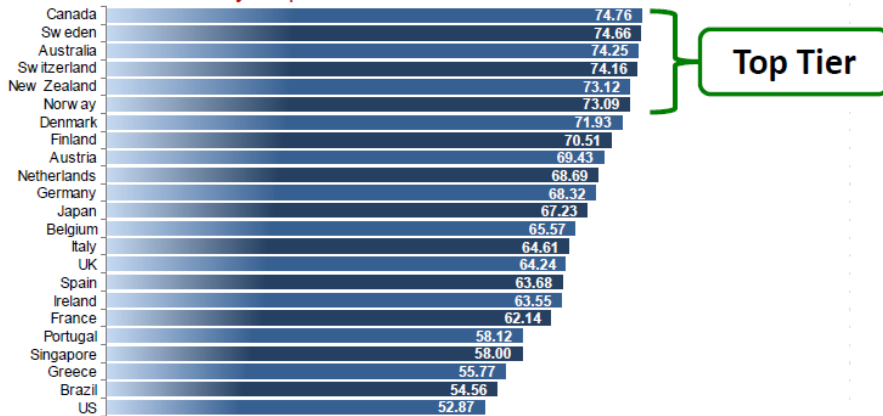
- ▶ **The Push-Pull Theory**
- ▶ **Center-Periphery Framework**
- ▶ **Academic Capitalism**

Model for Understanding Brain Circulation: the Case of Chinese CRCs



The Open and Inclusive Canadian Society Making a Big Draw

Country RepTrak™ 2011 External G8 Scores

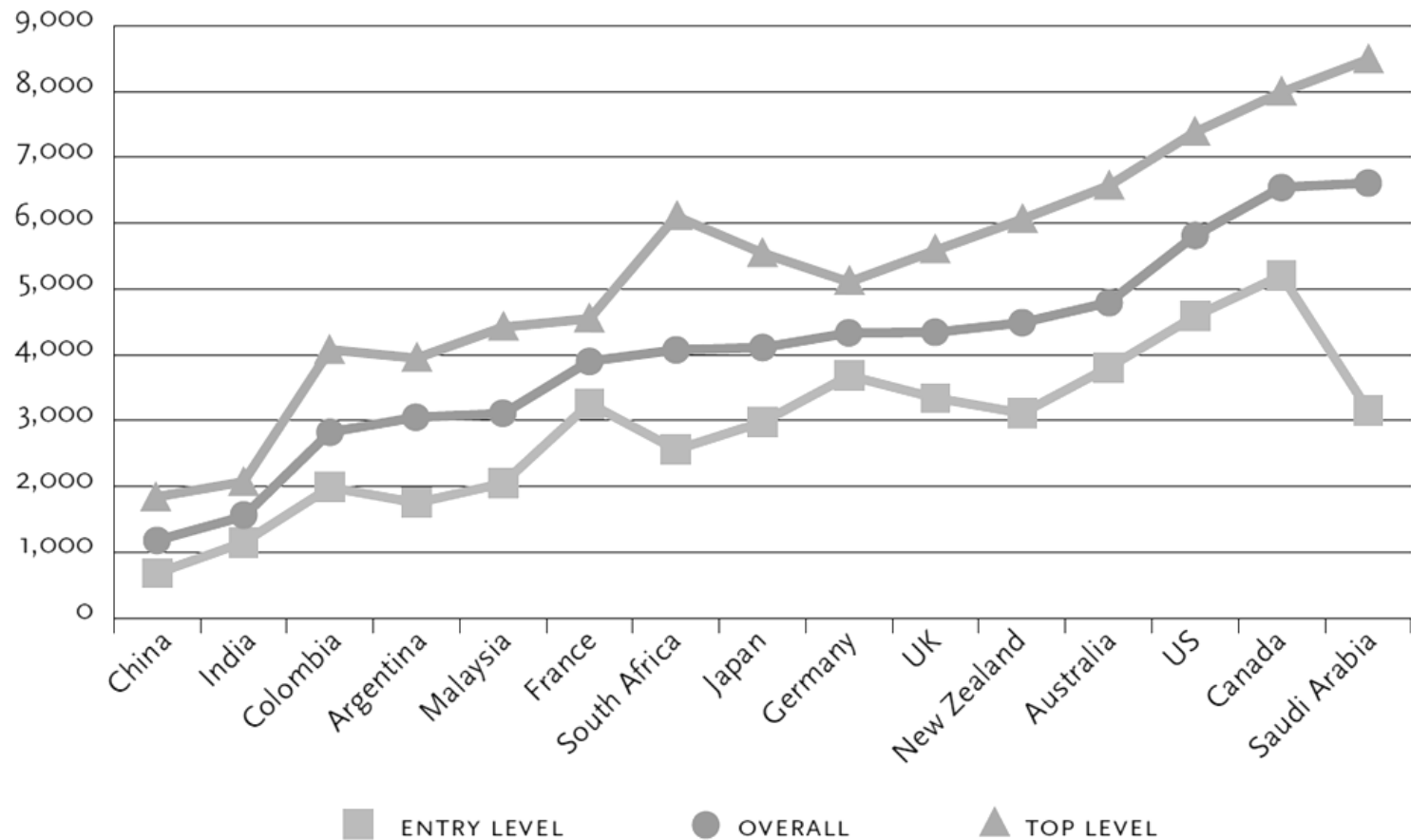


Ranking of the Most Reputable Countries in the World

	On the overall reading scale	On the reading subscales				On the mathematics scale	On the science scale	
		Access and retrieve	Integrate and interpret	Reflect and evaluate	Continuous texts			Non-continuous texts
OECD average	493	495	493	494	494	493	496	501
Shanghai-China	556	549	558	557	564	539	600	575
Korea	539	542	541	542	538	542	546	538
Finland	536	532	538	536	535	535	541	554
Hong Kong-China	533	530	530	540	538	522	555	549
Singapore	526	526	525	529	522	539	562	542
Canada	524	517	522	535	524	527	527	529
New Zealand	521	521	517	531	518	532	519	532
Japan	520	530	520	521	520	518	529	539
Australia	515	513	513	523	513	524	514	527
Netherlands	508	519	504	510	506	514	526	522
Belgium	506	513	504	505	504	511	515	507
Norway	503	512	502	505	505	498	498	500
Estonia	501	503	500	503	497	512	512	528
Switzerland	501	505	502	497	498	505	534	517
Poland	500	500	503	498	502	496	495	508
Iceland	500	507	503	496	501	499	507	496
United States	500	492	495	512	500	503	487	502

PISA 2009 Results

Plus, Canadian university professors are among the best salaried in the world



Exceptionalism to Academic Capitalism

Making an Asset to Canada

- ▶ “In the US, researchers routinely spent 1/3 to 1/2 of their time to write proposals...Even though you get grants, you have little time to do research, but have to hire others to do it while you look more like a research manager...The Canadian approach helps to overcome downturns in one’s career. Everyone could experience ups and downs in research. If your area is not popular any more, it is hard for you to get any funding in the US.” (Interview with a Tier II CRC recruited from a US research institute)

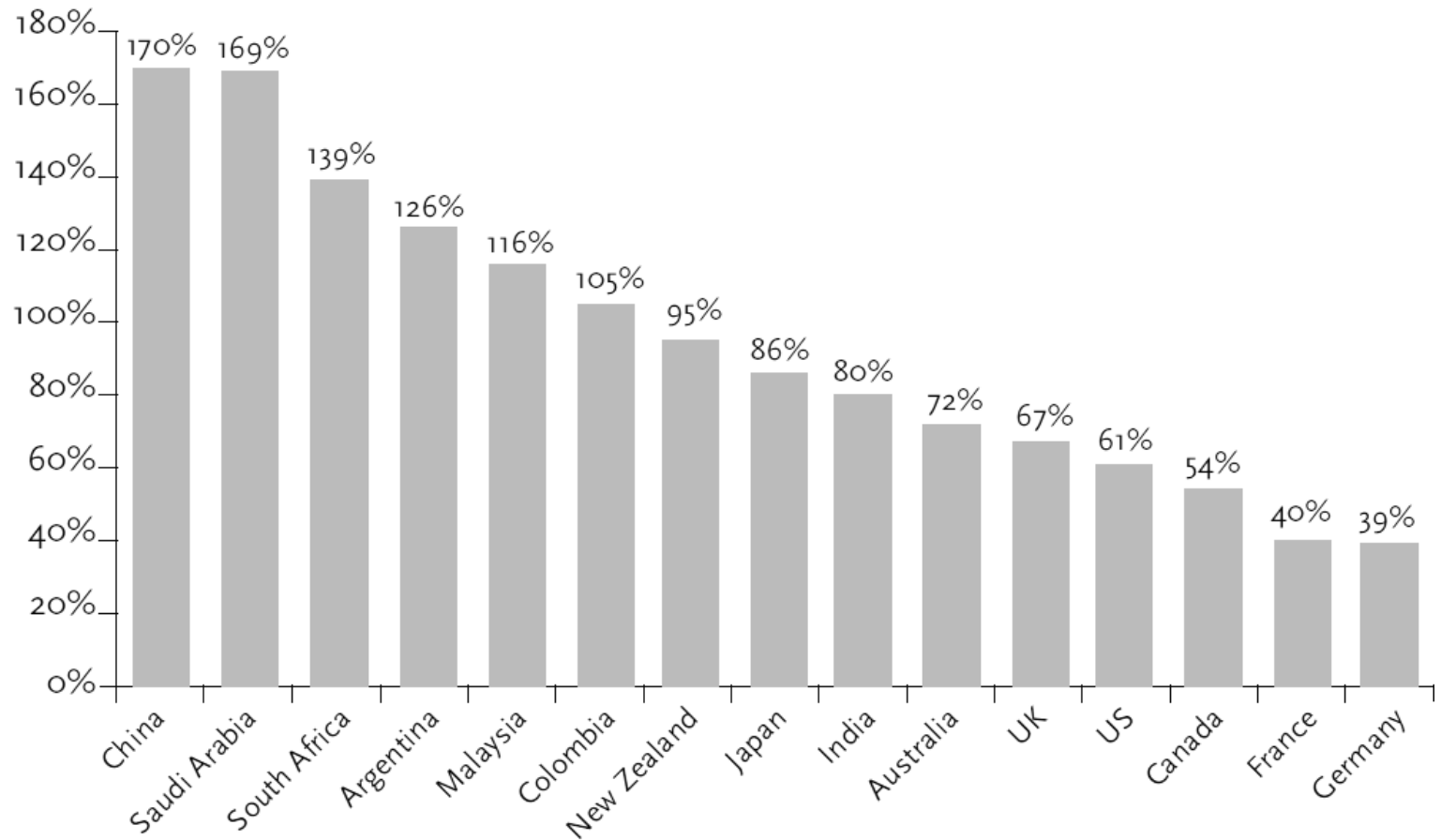
More Notable Responses

- ▶ “The core of Canadian values is about peace and sustainability (which I initially misinterpreted as mediocrity and attempting nothing). [Similarly] the current practice of CRC program works well to achieve the synergy between the individual and the institution. Research is a conversation between human and nature, and directed by heart, not just brain. Valuable breakthroughs often come from passionateness, not pressure. [In this sense], the American highly competitive environment works well for technological innovations, but not necessarily for discoveries in sciences.” (Interview with a Tier II CRC recruited from within Canada)

More Notable Responses (contd.)

- ▶ “CRC and NSERC programs encourage you have long term planning...This is particularly important for interdisciplinary research...It would be risky if you have to write a report every year as in the US, spend a lot of time writing proposals for one year ahead at a time.” (Interview with a Tier I CRC recruited from within university)
- ▶ “The less competitive environment [in Canada] allows you to pick up those problems that require very deep thinking, while you have to rush in the States where people tend to have a utilitarian mentality...human ideas are hard to judge in their initial stage.” (Interview with a Tier I CRC recruited from within Canada)

Canada's relative exception to academic capitalism finds expressions also with faculty compensation



Center-Periphery Equation Making a Double-Edged Sword

- ▶ “[My university] treats CRC very differently from other universities. CRCs are not distinctive from the rest of faculty – do not want to make two categories of faculty, and try not to differentiate and affect merit evaluations etc...[This practice] creates a lot of pressure when you have CRC – when you come to renewal, you are compared laterally with others who are only doing research, doing no teaching.” (Interview with a Tier I CRC recruited from within university)
- ▶ “My university stipulates even a Tier I CRC holds this position for only two terms. This policy might serve to rotate the opportunity among more who are qualified.” “The CRC position is not sufficient to keep me here.” (Interview with a Tier I CRC recruited from the National Research Council of Canada)

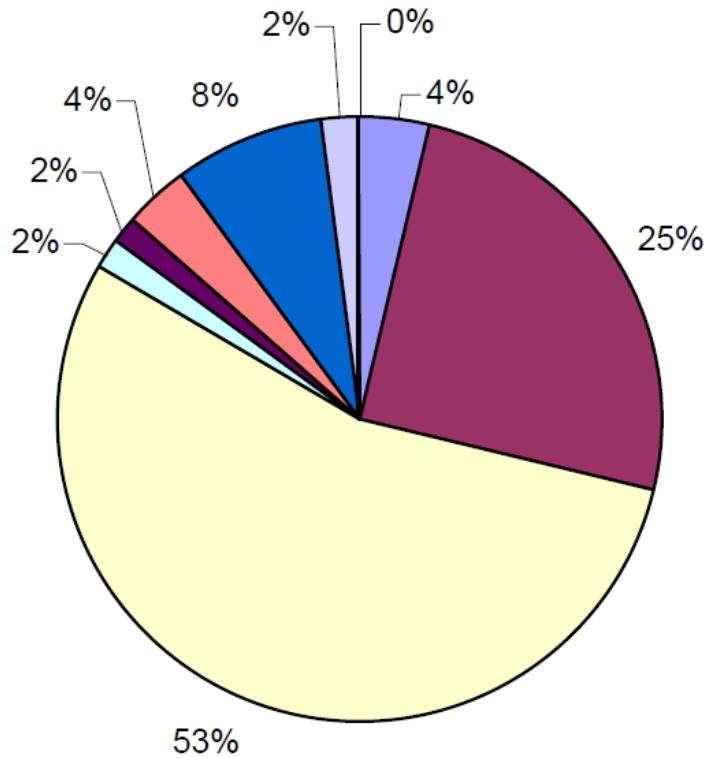
More Notable Responses

- ▶ “The Canadian relaxed environment is only good for the few geniuses [but most people would need pressure]...In the US, senior professors cannot go to sleep—feeling the threat that young scholars will overtake them...In Canada, there is no incentive or encouragement system—different from China, Japan, Korea and also the US. In the US, a major discovery, a paper in *Nature* or *Science*, will get a letter from the president [of the university], but here no recognition, sometimes even have to hide it...I have a sense of ceiling here—cannot go to a higher level” (Interview with a Tier I CRC recruited from a major US research university)

More Notable Responses (contd.)

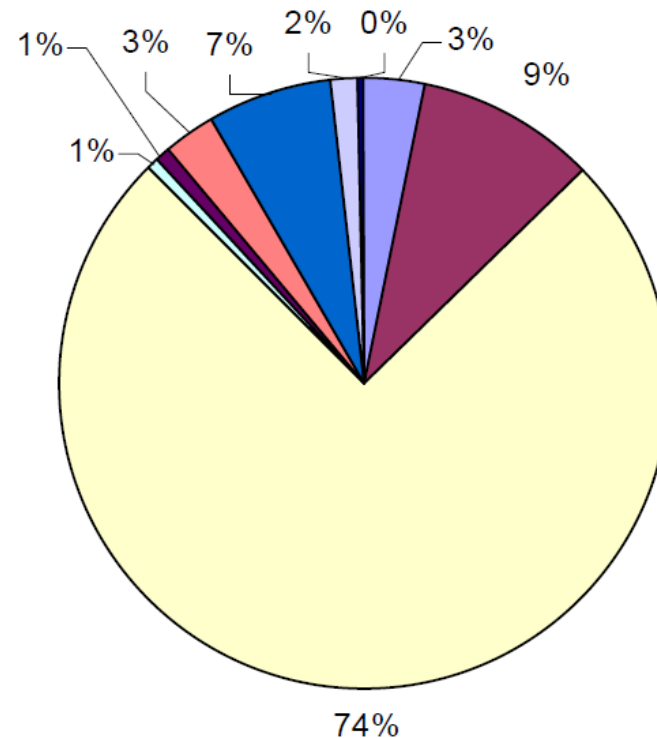
- ▶ “In the US, a successful professor has many sources of funding – EPA, NOVA, NASA, NSF, so many sources – and can maintain a very large research program, but not in Canada – only NSERC, no other source of funding...NSERC sprinkles money around, everyone gets some. [It] tries to support young and established, [adopting] the small and even funding policy, which is not that bad, but it means sources of funding are very limited compared with situation in the US – Canada has no such fertile source.” (Interview with a Tier I CRC recruited from within university)

CRC Allocation of Funds (CRCP, 2009a)



2002-03

- Salaries to students
- Salary and benefits of incumbent
- Equipment
- Administrative costs
- Research time stripends



2007-08

- Salaries to non-students
- Professional and technical services/contracts
- Materials and supplies
- Travel

Cf. CRC Experience at Large (Grant and Drakich, 2010, p.28)

Experiences by Percentage	Tier 1	Tier 2
Good	70%	78%
Bad	16%	22%
Ugly	14%	0%

More Notable Responses (contd.)

- ▶ “Egalitarianism is overstressed in Canada. [As a result,] it doesn’t make a difference to perform well or not so well. Sometimes you even have to downgrade a bit your own pursuit and accomplishment...[For this reason] a colleague here, who is French and a Tier I CRC, has, however, chosen to leave.”
(Interview with a Tier II CRC recruited from within university)
- ▶ The CRC Program must maintain its criteria (when it comes to approve appointment or renewal. Now the successful rate is too high. As the result, there emerges a counter-CRC trend (in my university), which aims to exclude CRCs from obtaining regular resources, as they fail to outperform others. I see this as something illegal.” (Interview with a Tier II CRC recruited from a US public research university)

Chairs Success Rate, since start to June 2009

	Approved	Not Approved	Success Rate
NSERC	1154	148	88.6%
CIHR	850	83	91.1%
SSHRC	567	70	89.0%
TOTAL	2571	301	89.5%

Source: CRCP, 2009b >>>

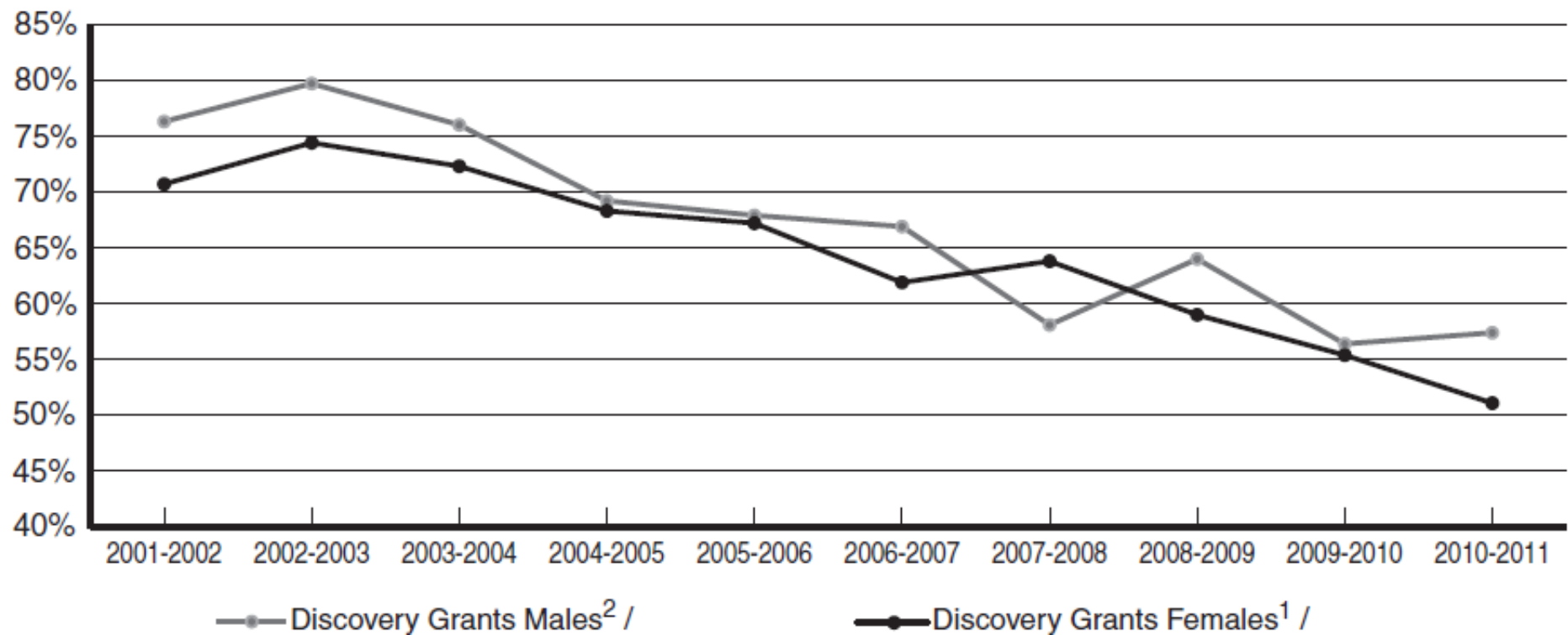
Discussions & Recommendations

- ▶ Canada's advantage for global brain race seems to rest with a combination of the collectivist and multicultural ideologies, and their expressions in the academic arena.
- ▶ A certain degree of exceptionalism to academic capitalism seems to warrant some attractiveness to top researchers, in particular the rising stars. Then, there need some careful efforts to address the emerging dilemma between the tradition in favor of less competition and the need for global competitiveness.

Discussions & Recommendations (contd.)

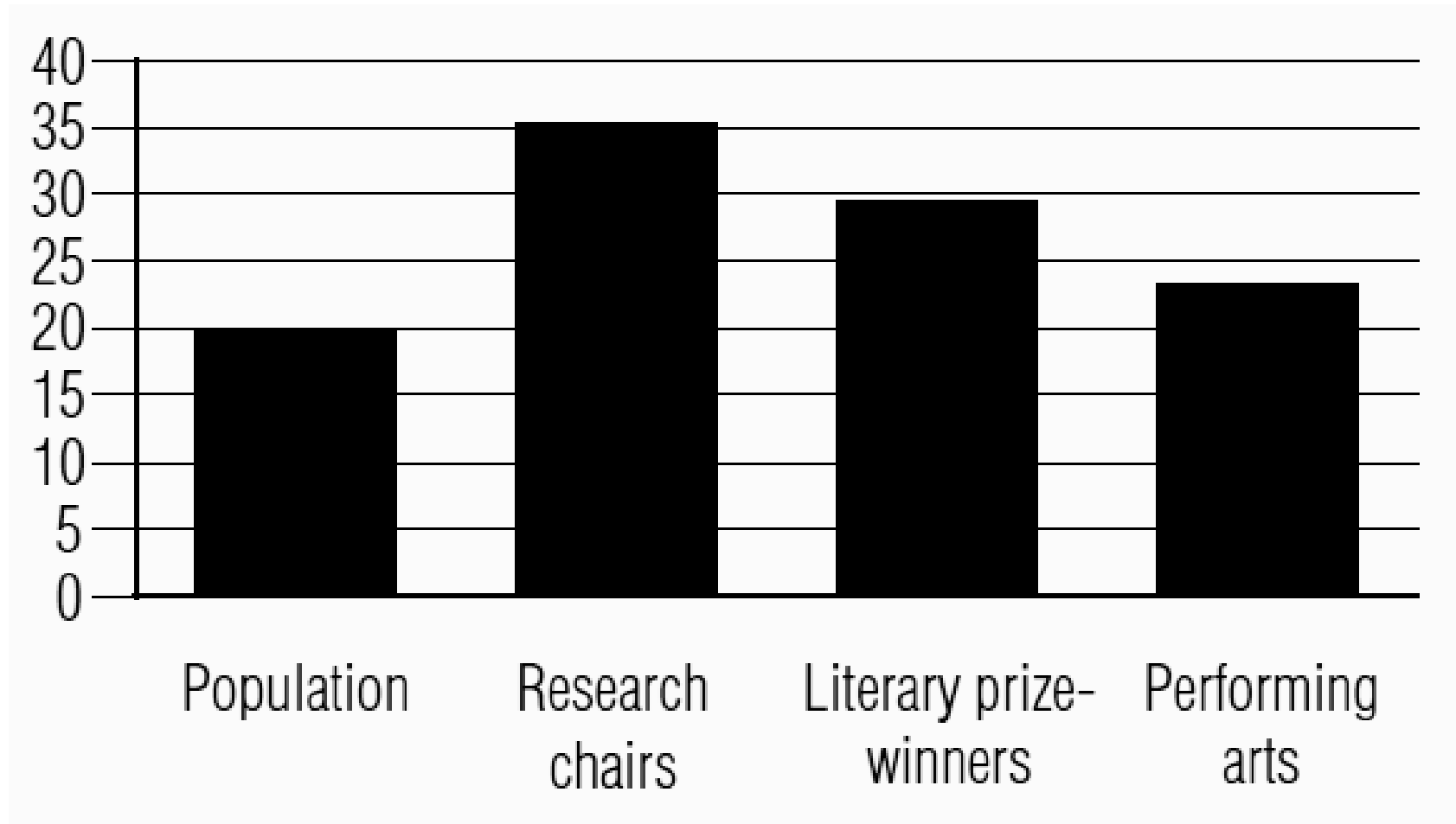
- ▶ The egalitarian culture/approach in Canadian universities needs to integrate and tolerate elements of incentives and meritocracy when dealing with research stars. CRCP is elite *per se* and thus should carry some differentiated practices.
- ▶ The expansion of Canada's advantage stems from the healthy and organic interactions among these elements/factors in the environment where Canadian universities operate.

When competition is brought in and picks up intensity, efforts need to be made to retain the core of traditional value and support those who need support.



Success Rates for NSERC Discovery Grants

Last but not least...



References

- ▶ Barak, R.J. (1982). *Program Review for Higher Education: Within and Without*. Boulder: National Center for Higher Education Management Systems.
- ▶ Canada Research Chairs Program (2009a). *Canada Research Chairs Review 2007-2008*. Ottawa, Canada: CRCP.
- ▶ Canada Research Chairs Program (2009b). *Canada Research Chairs Information Session* [ppt]. Edmonton, AB: University of Alberta.
- ▶ Grant, K.R. and Drakich, J. (2010). The Canada Research Chairs Program: the good, the bad, and the ugly. *Higher Education*, 59: 21-42.
- ▶ Skolnik, M. (1990). Lipset's *Continental Divide* and the Ideological Basis for Differences in Higher Education between Canada and United States. *The Canadian Journal of Higher Education*, Vol. XX-2, 81-93.
- ▶ Slaughter, S. and Leslie, L. (1997). *Academic capitalism: Politics, policies, and the entrepreneurial university*. Baltimore: Johns Hopkins University Press.