

Potential and Challenges of Business-Academia Collaboration

Conclusions

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Policy Recommendations for Universities

- listen to the needs of business in education and research to build trusted partnerships
- define practical frameworks for collaborating with business, e.g. the EIRMA/EUA/EARTO guidelines for responsible partnering
- integrate internships in the curricula to give every student insight to relevant professional environments
- implement curricula reflecting agreed demands from business
- invite companies to contribute to lectures and accelerate knowledge transfer
- invite industry for industry based PhD students to accelerate knowledge transfer
- engage in widening the academic merit system to include active partnering as one element to complement purely scientific achievements (publications)
- discuss possibilities for jointly-funded PhD programmes
- explore the possibilities for business-funded chairs or institutes

Policy Recommendations for Businesses

- listen to the boundary conditions which confine universities and prevent entrepreneurial management in these institutions
- build trusted partnerships in education and research to foster innovative staff exchanges
- define practical frameworks for collaborating with business, e.g. the EIRMA/EUA/EARTO guidelines for responsible partnering
- offer internships to enable universities to include these in the curricula to give every student insight in relevant professional environments
- discuss the curricula to reflect the business needs
- offer to contribute to lectures in order to accelerate knowledge transfer
- offer industry based PhD students to accelerate knowledge transfer
- discuss possibilities for jointly-funded PhD programmes
- explore the possibilities for business-funded chairs or institutes

Policy Recommendations for Governments

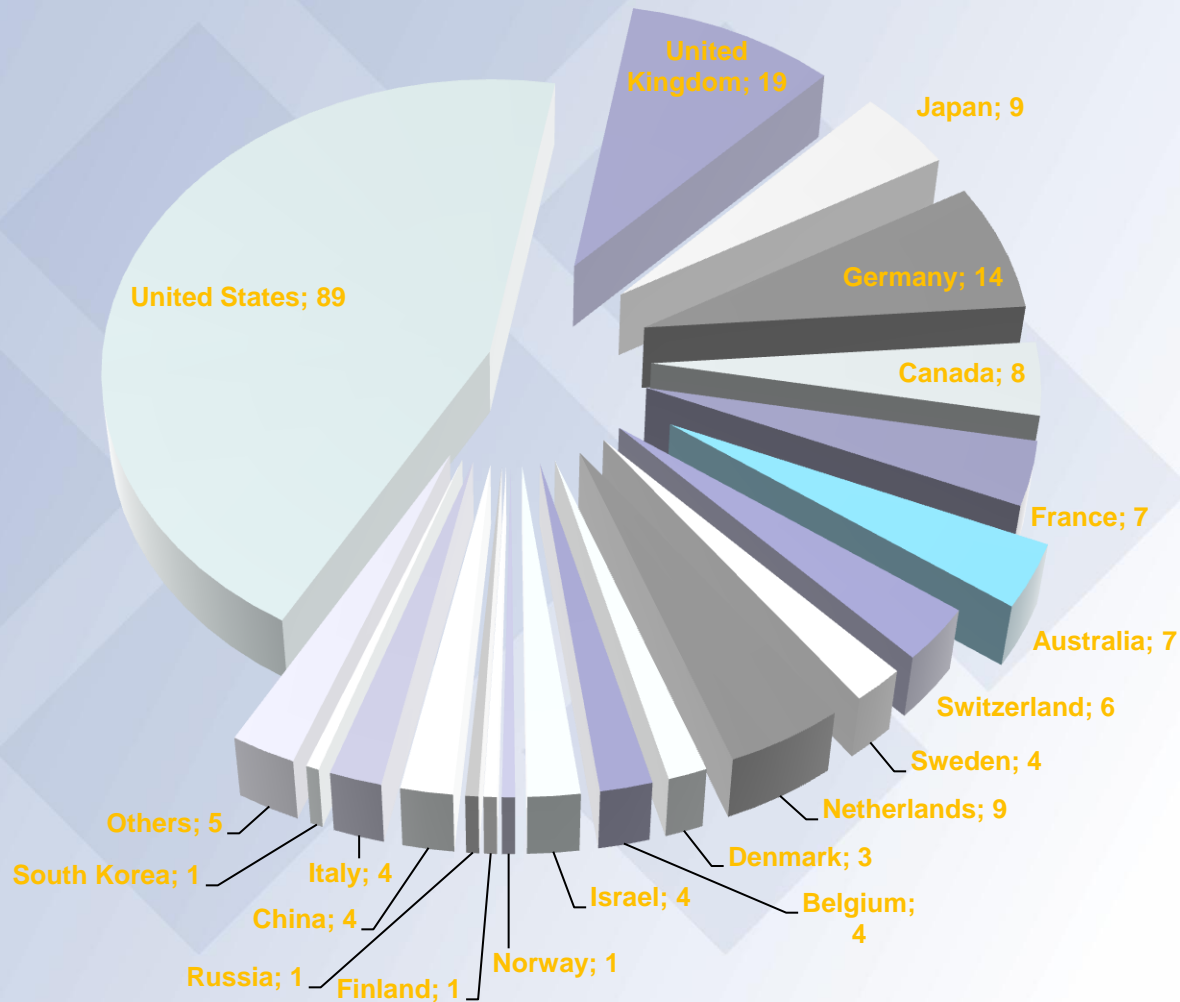
- define clear long-term national priorities for innovation investments and secure the related funding allocations for the entire period between revisions
- establish science, technology and innovation advice at the cabinet level, rather than to individual ministers
- encourage schools to stimulate interest and creativity at primary school level and educate teachers to be able to accomplish these tasks
- create an environment for mobility between sectors
- foster training of senior officials to be able to cope with the interconnectedness of departments to facilitate innovation in the country
- implement curricula reflecting agreed demands from business

An Australian Perspective on Global Human Capital Development

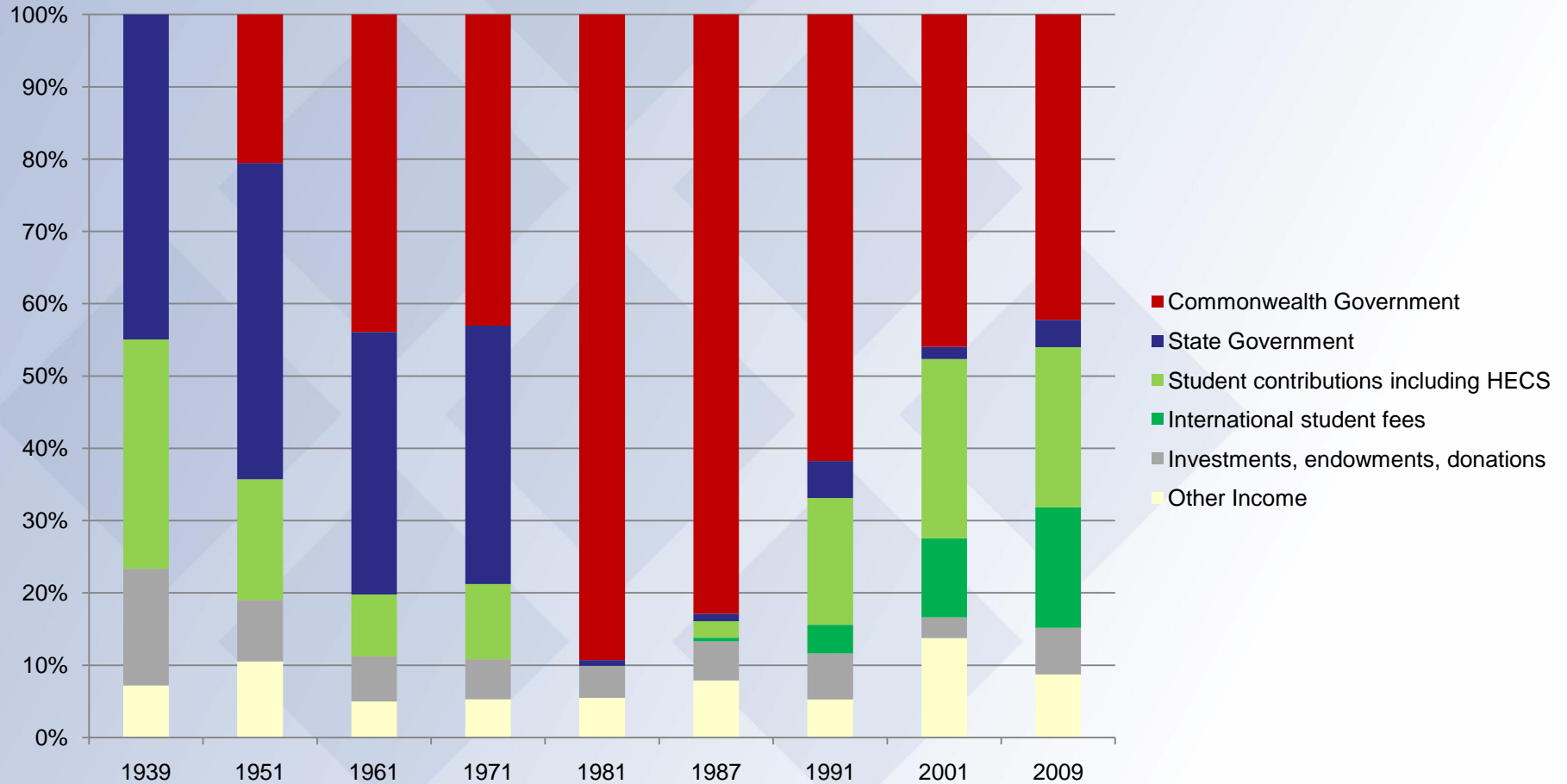
Australia is a country offering great opportunities



ARWU top 200 universities 2010

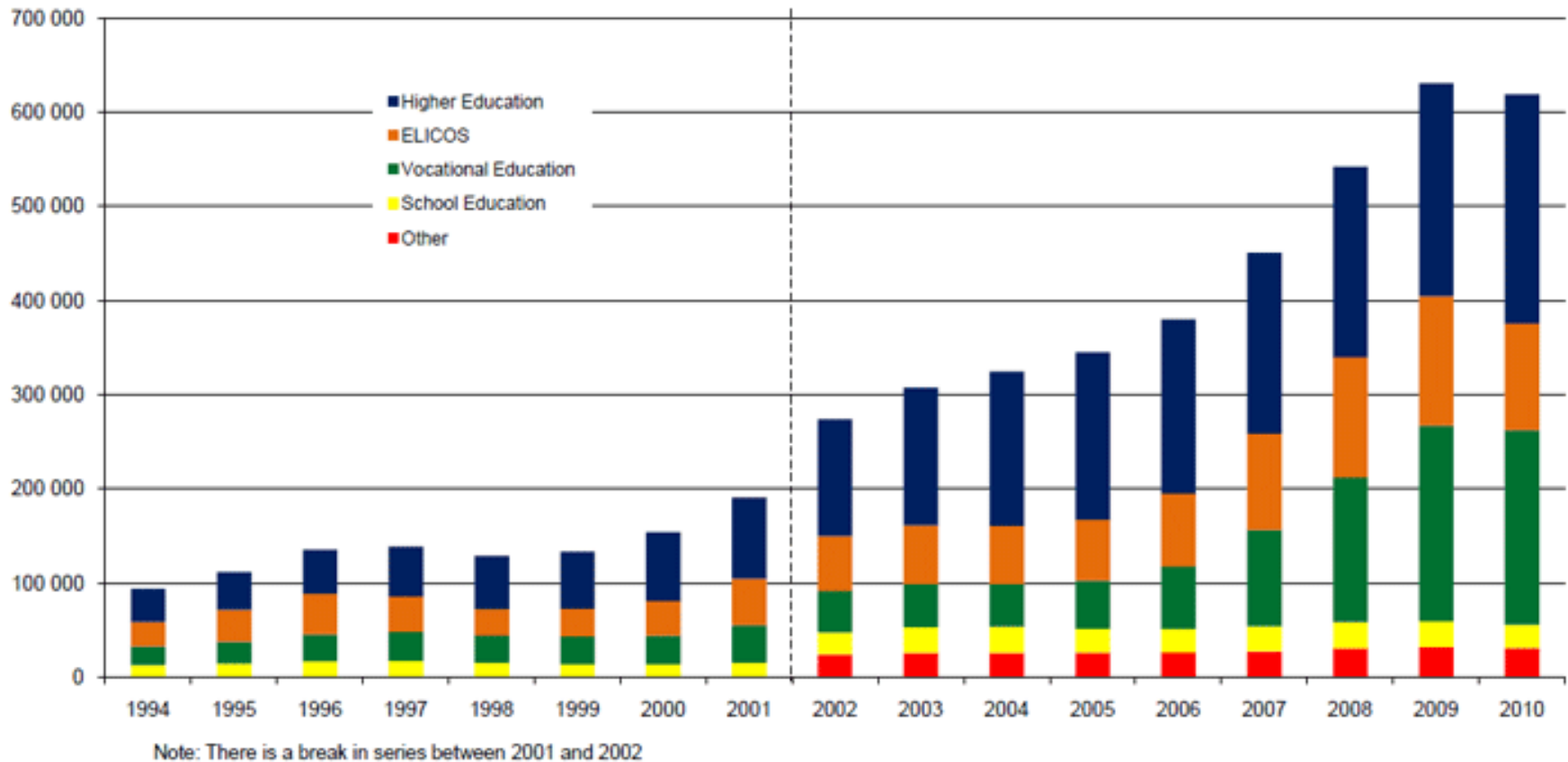


Higher Education Income Australia, 1939 to 2009



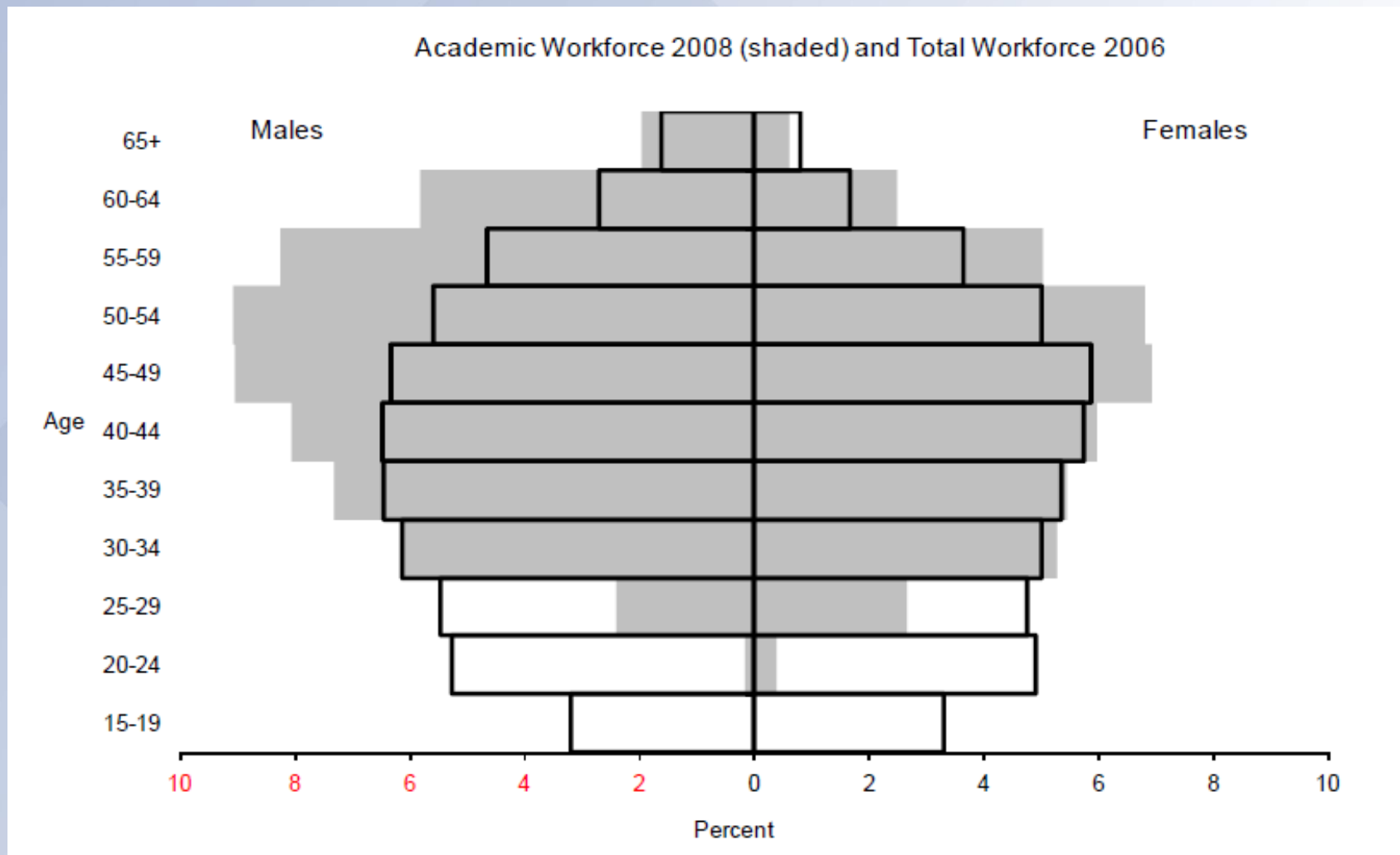
Incoming Students

International Student Enrolments in Australia 1994–2010



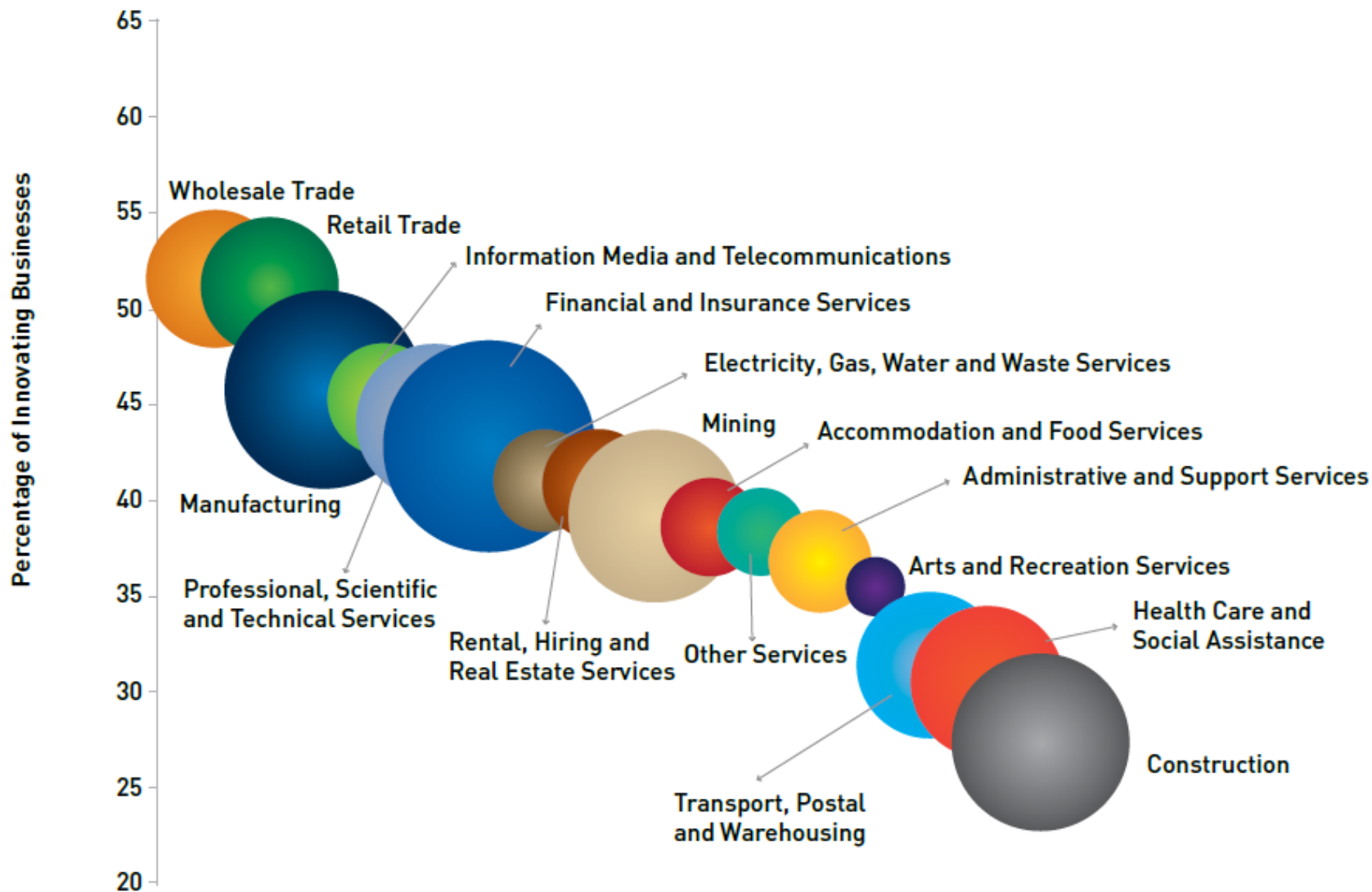
From: "International student data for 2010", AEI, 2011

Sex-Age Structure Academic/Total Workforce



From: "Investigating The Ageing Academic Workforce: Stocktake", Prof. Graeme Hugo, University of Adelaide, March 2010

Innovative Businesses



Sources: ABS (2009). *Summary of IT Use and Innovation in Australian Business, 2007-08*, cat. no. 8166.0; ABS (2008). *Australian System of National Accounts, 2007-08*, Table 5, cat. no. 5204.0; and DIISR calculations.

From: "Australian Innovation System Report 2010"



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Global Shift of the Knowledge cg

The technical labour pool in China allows Shanghai-based offshore outsourcing company Bleum Inc. to use an IQ test to screen applicants, with a cutoff score for new computer science graduates in China of 140. Less than 1% of the population has a score that high. Bleum has started hiring a US workforce but sets an IQ score of 125 as a screening threshold because of the smaller labour pool. The company employs more than 1,000 people in China.

Another fact to note: In 2005, the US awarded 137,500 engineering degrees, the EU 123,500 while China awarded 351,500, according to a workforce study 2010.

In 2009 Australia the completions by domestic students in undergraduate award courses in Engineering and related technologies were 6401.



Global Shift of the Knowledge cg

US Senator Kay Bailey Hutchinson made an assessment of the US in science and math education at a Senate hearing in May 2010, when she compared the performance of students in Texas to those in China:

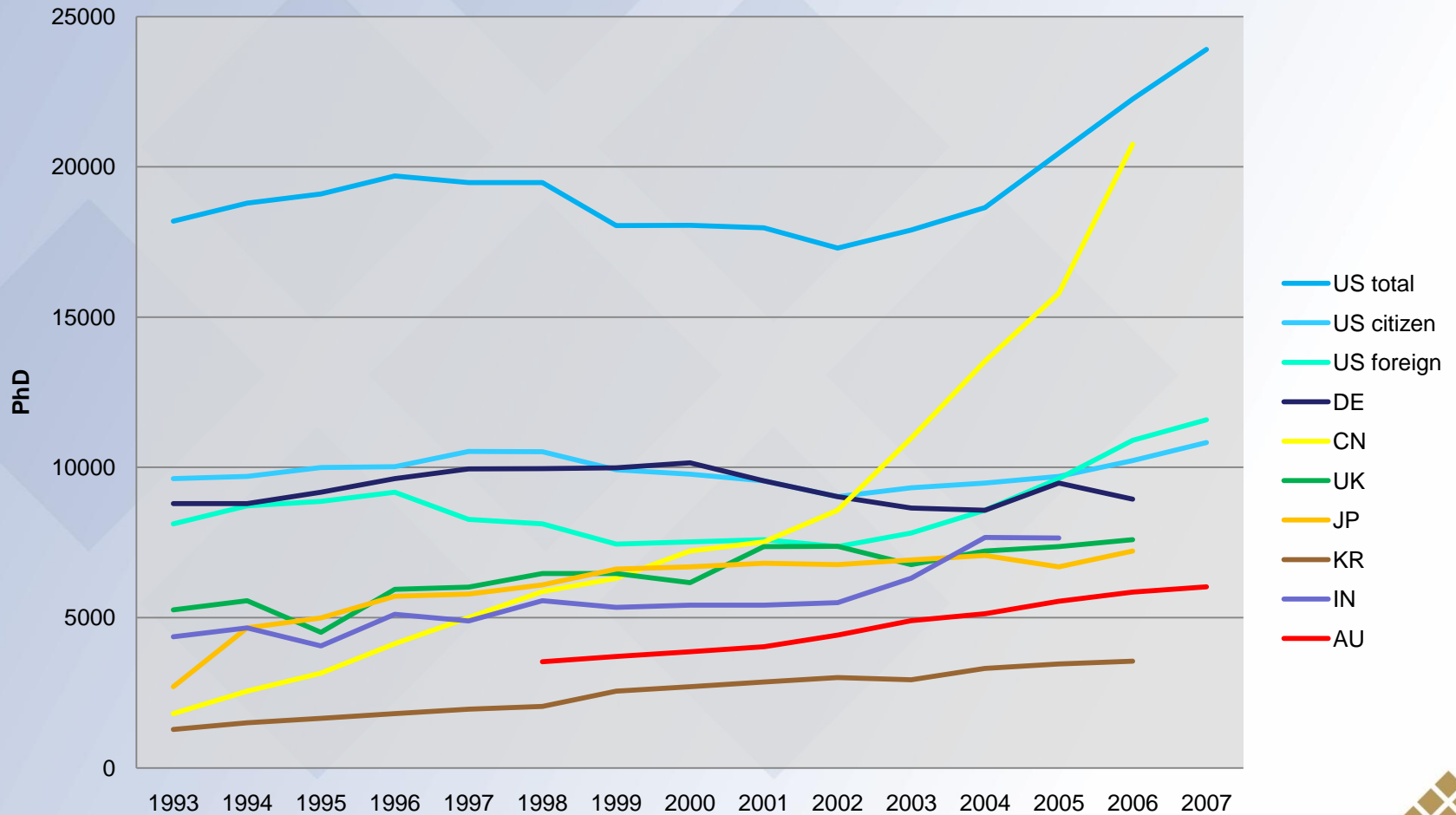
"In my home state of Texas, only 41% of the high school graduates are ready for college-level math (algebra), and only 24% are ready for college-level science (biology),"

"Furthermore, only 2% of all US 9th-grade boys and 1% of girls will go on to attain an undergraduate science or engineering degree. In contrast to these troubling numbers 42% of all college undergraduates in China earn science or engineering degrees."

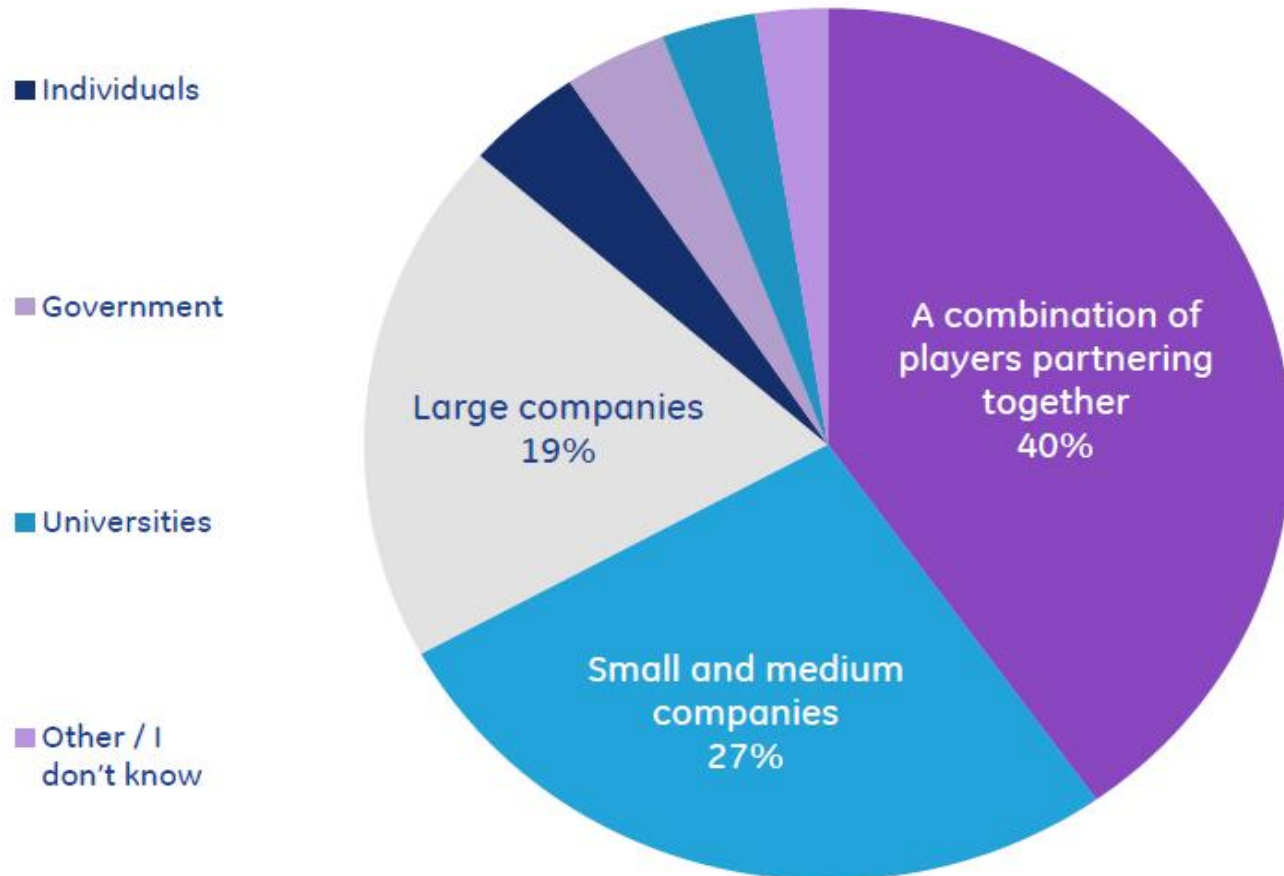


Global Shift of the Knowledge cg

Number of PhD in selected regions/countries 1995-2007



Innovation drivers in the next 10 years



6 Observations

- If the West wants to maintain leadership urgent changes need to be implemented.
- The political culture must build on trust as the basis for societal development.
- A new 'enlightenment' to achieve a realistic and constructive political consensus should be fostered through the media.
- Political targets should be measured against reality beyond established perceptions.
- A 'systems approach' needs to be developed to the many interconnected challenges mankind is facing in the coming century.
- New global partnerships and new governances need to reflect the shifts in the distribution of capabilities.

Thank you for your attention

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