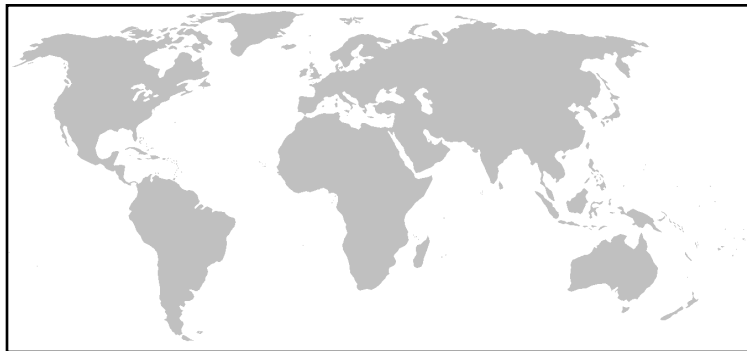


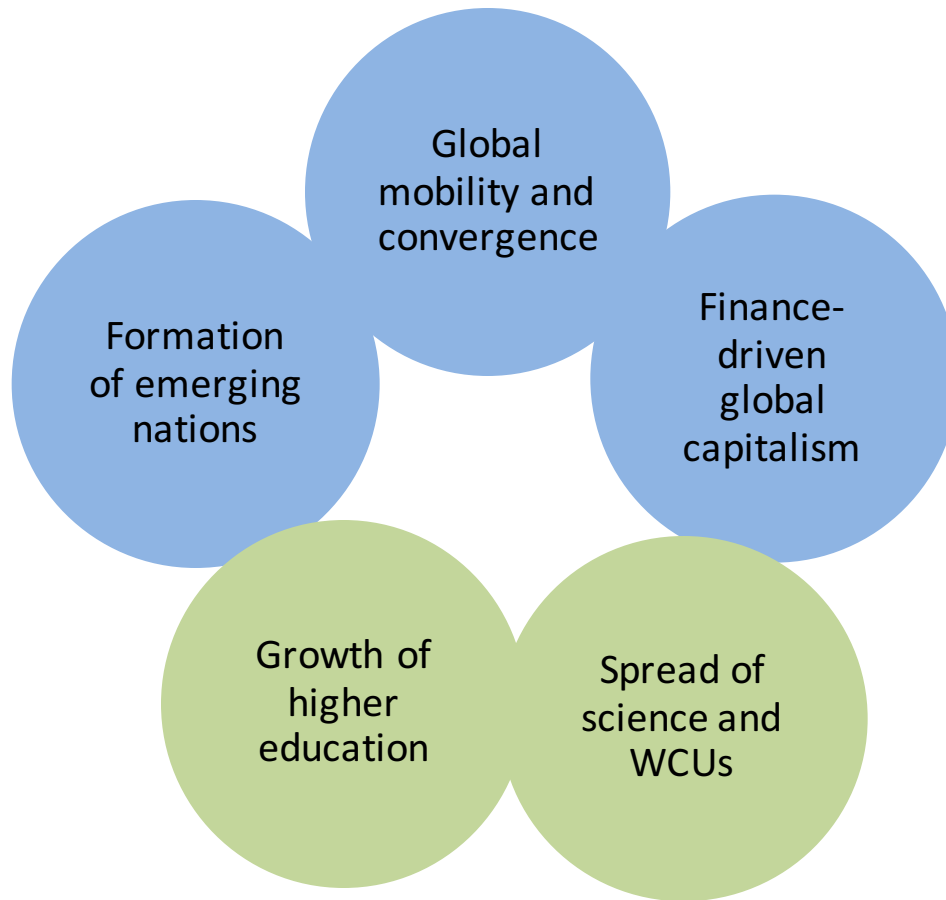
15 April 2016, ECED-2016 at UCL

# **The international context of higher education change: *Drivers and challenges***



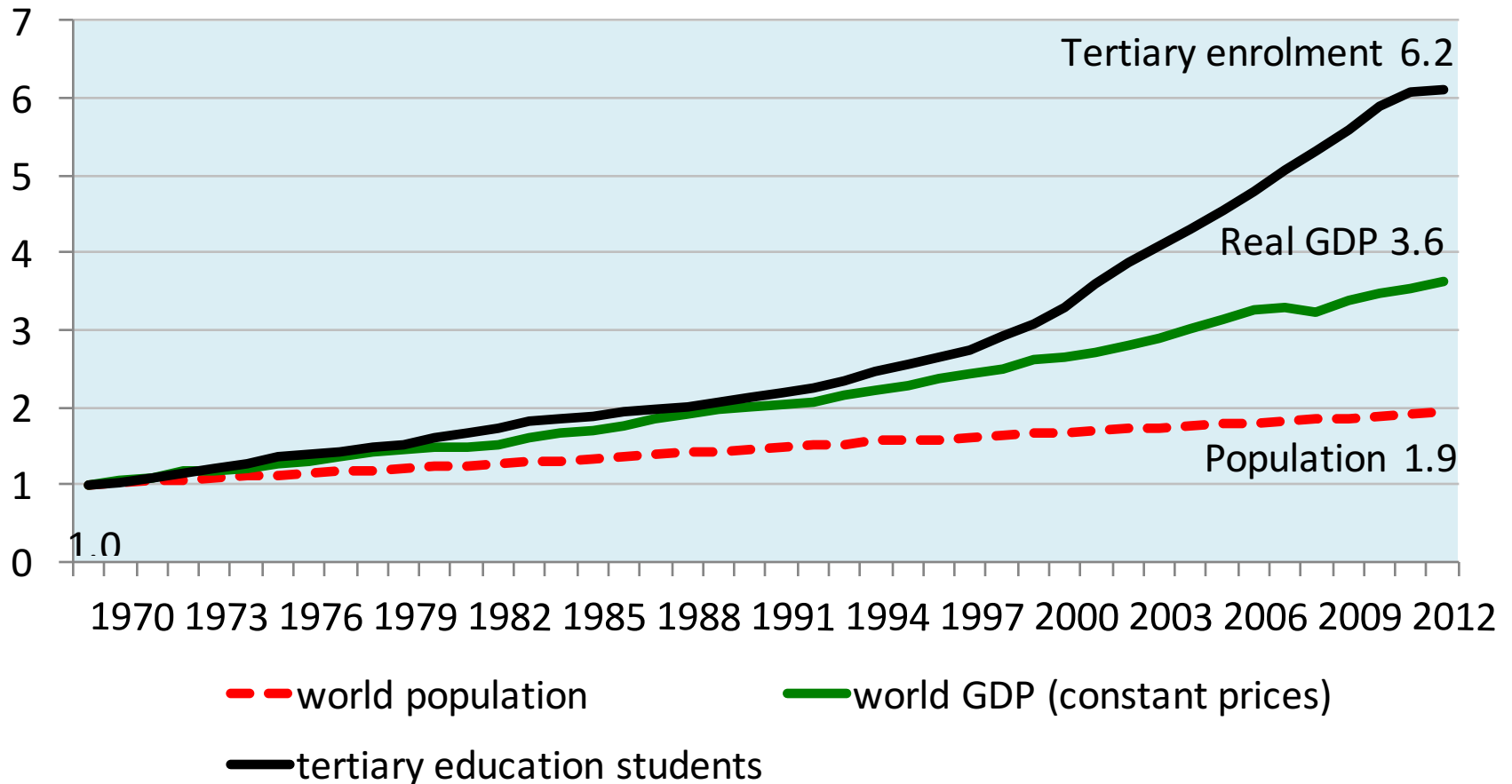
Simon Marginson  
ESRC/HEFCE Centre for Global Higher Education  
UCL Institute of Education

# Five intersecting processes, including two trends in world higher education



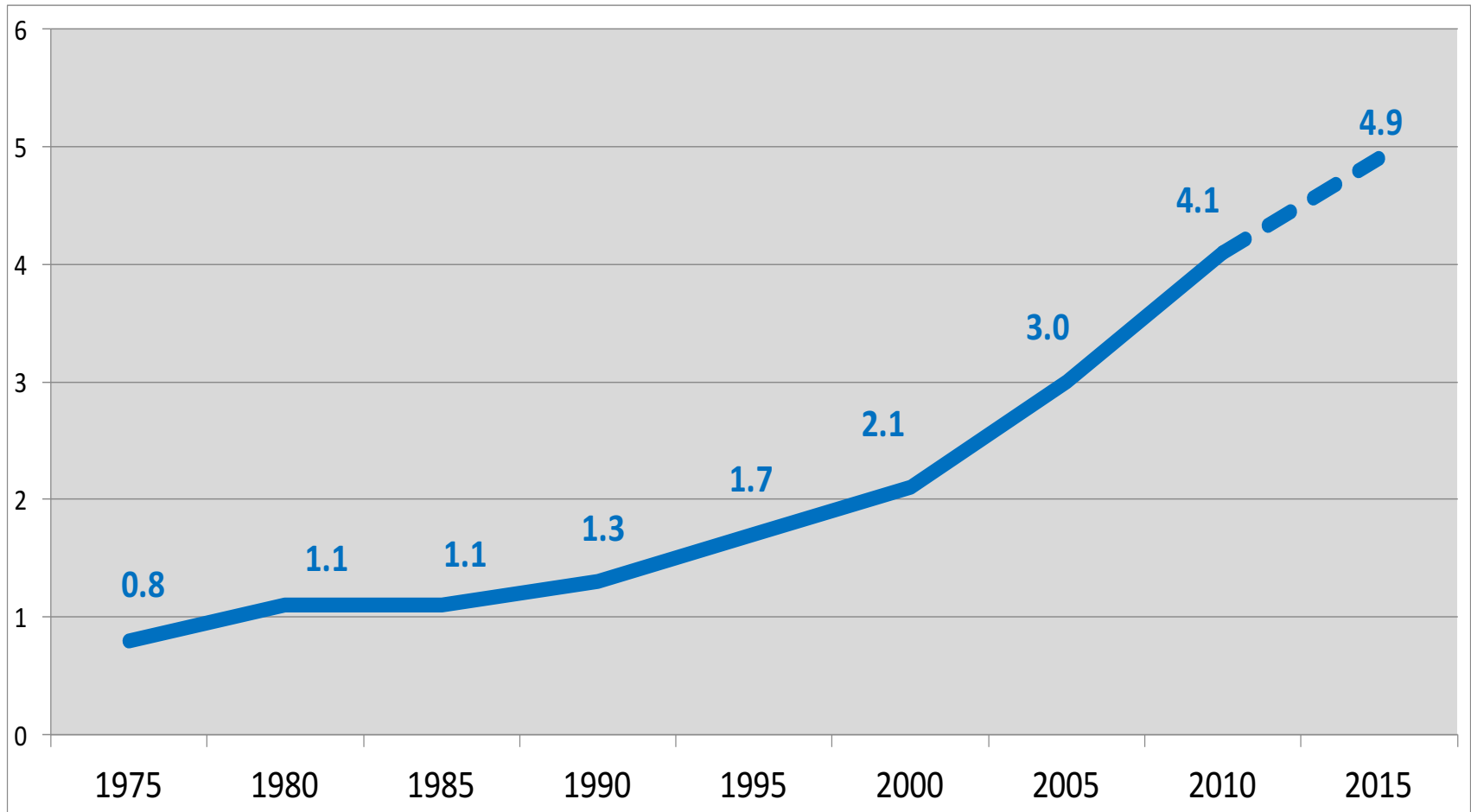
# World population, real GDP and enrolment in tertiary education, 1970-2012

1970=1.0. Data from World Bank, UNESCO 2015

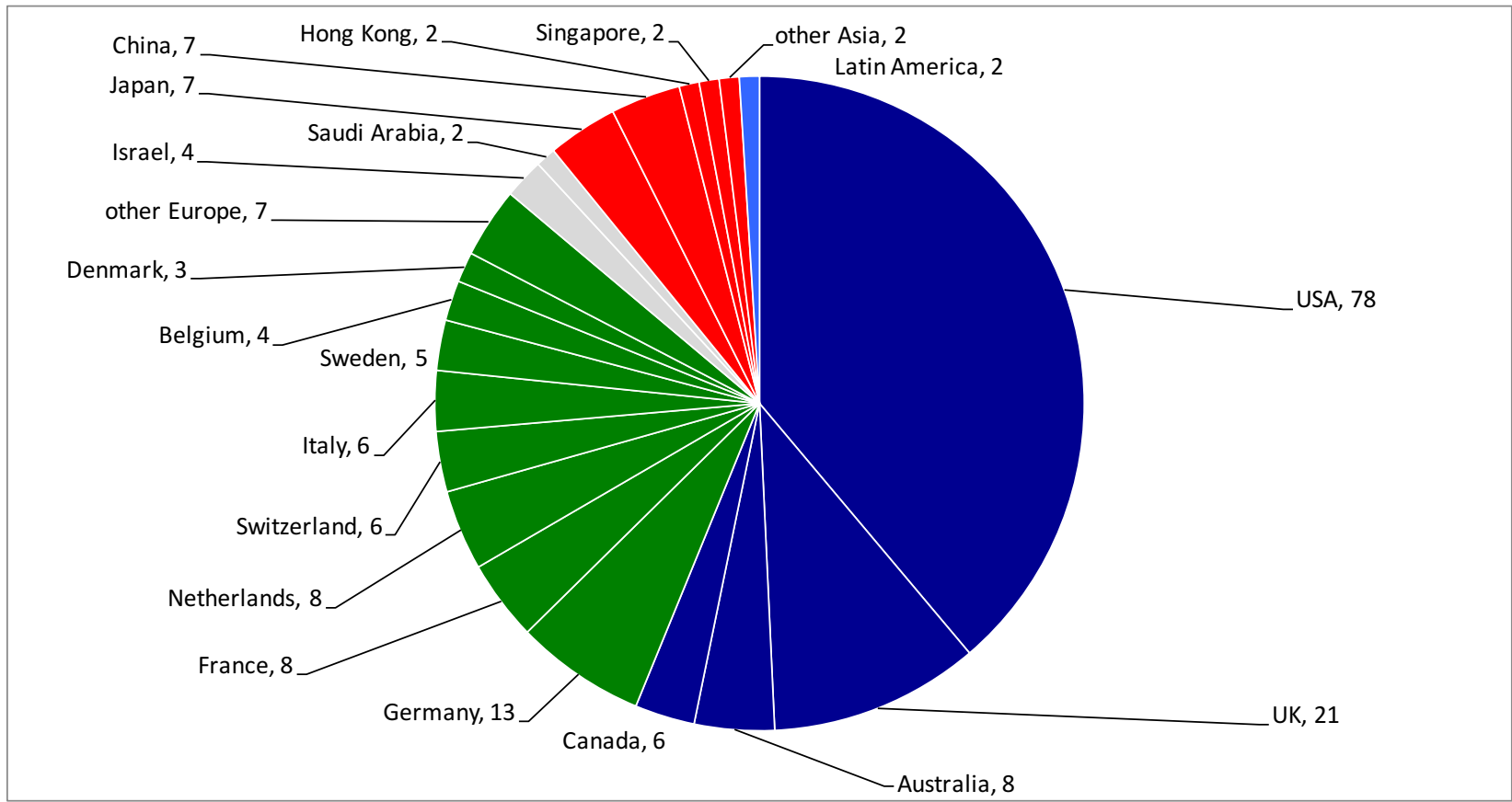


# The dynamic growth of international student mobility

Students enrolled outside their country of citizenship, *millions*, 1975-2015 (OECD data)



# Shanghai Academic Ranking of World Universities top 200, 2015



# Stronger research universities in Europe

## European universities in ARWU top 80 in 2004 (14)

27	Fed Instit Tech Zurich	SWITZERLAND
39	U Utrecht	NETHERLANDS
41	Paris 6 P&M Curie	FRANCE
45	TU Munich	GERMANY
46	Karolinska Instit	SWEDEN
48	Paris 11 Sud	FRANCE
51	U Munich	GERMANY
57	U Zurich	SWITZERLAND
59	U Copenhagen	DENMARK
63	Leiden U	NETHERLANDS
68	U Oslo	NORWAY
72	U Helsinki	FINLAND
74	Uppsala U	SWEDEN
79	U Goettingen	GERMANY

*Source: Shanghai Academic Ranking of World Universities 2015*

## European universities in ARWU top 80 in 2015 (19)

20	Fed Instit Tech Zurich	SWITZERLAND
35	U Copenhagen	DENMARK
36	Paris 6 P&M Curie	FRANCE
41	Paris 11 Sud	FRANCE
46	Heidelberg U	GERMANY
48	Karolinska Instit	SWEDEN
51	TU Munich	GERMANY
52	U Munich	GERMANY
54	U Zurich	SWITZERLAND
56	U Utrecht	NETHERLANDS
58 <sup>eq</sup>	U Geneva	SWITZERLAND
58 <sup>eq</sup>	U Oslo	NORWAY
61 <sup>eq</sup>	Uppsala U	SWEDEN
67 <sup>eq</sup>	U Helsinki	FINLAND
71	Ghent U	BELGIUM
72	Ecole Normale Superieure	FRANCE
73	Aarus U	DENMARK
75	U Groningen	NETHERLANDS
77	Stockholm U	SWEDEN

# World-Class Universities, Chinese systems

Shanghai ARWU top 500 universities, 2004 & 2015

	2004	2015
China mainland	8	32
Hong Kong SAR	5	5
Taiwan China	3	7
Singapore	2	2
Total	18	46

# East Asian (Chinese civilizational) sphere



China  
Hong Kong SAR  
Macau SAR  
Taiwan  
Singapore  
South Korea  
Japan  
Vietnam





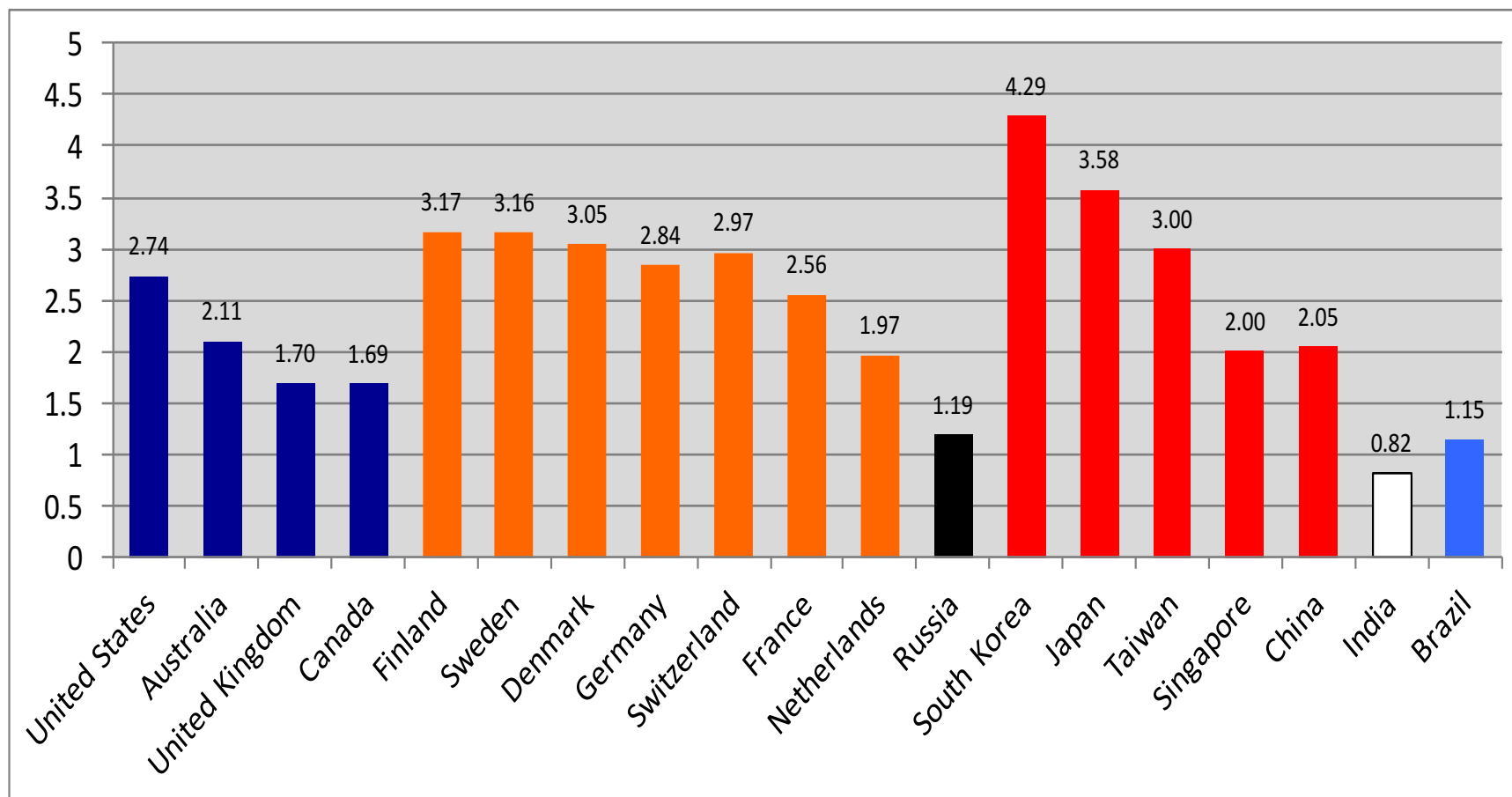
# Top ten school systems in OECD PISA 2012

(mean student scores, 15 year olds, East Asian education systems in red)

Reading	Mathematics	Science
Shanghai China 570	Shanghai China 613	Shanghai China 580
Hong Kong SAR 545	Singapore 573	Hong Kong SAR 555
Singapore 542	Hong Kong SAR 561	Singapore 551
Japan 538	Taiwan 560	Japan 547
South Korea 536	South Korea 554	Finland 545
Finland 524	Macao SAR 538	Estonia 541
Taiwan 523	Japan 536	South Korea 538
Canada 523	Liechtenstein 535	Vietnam 528
Ireland 523	Switzerland 531	Poland 526
Poland 518	Netherlands 523	Liechtenstein 525
<i>Vietnam 508</i>	<i>Vietnam 511</i>	Canada 525
UK 499	UK 494	UK 514
USA 498	USA 481	USA 497

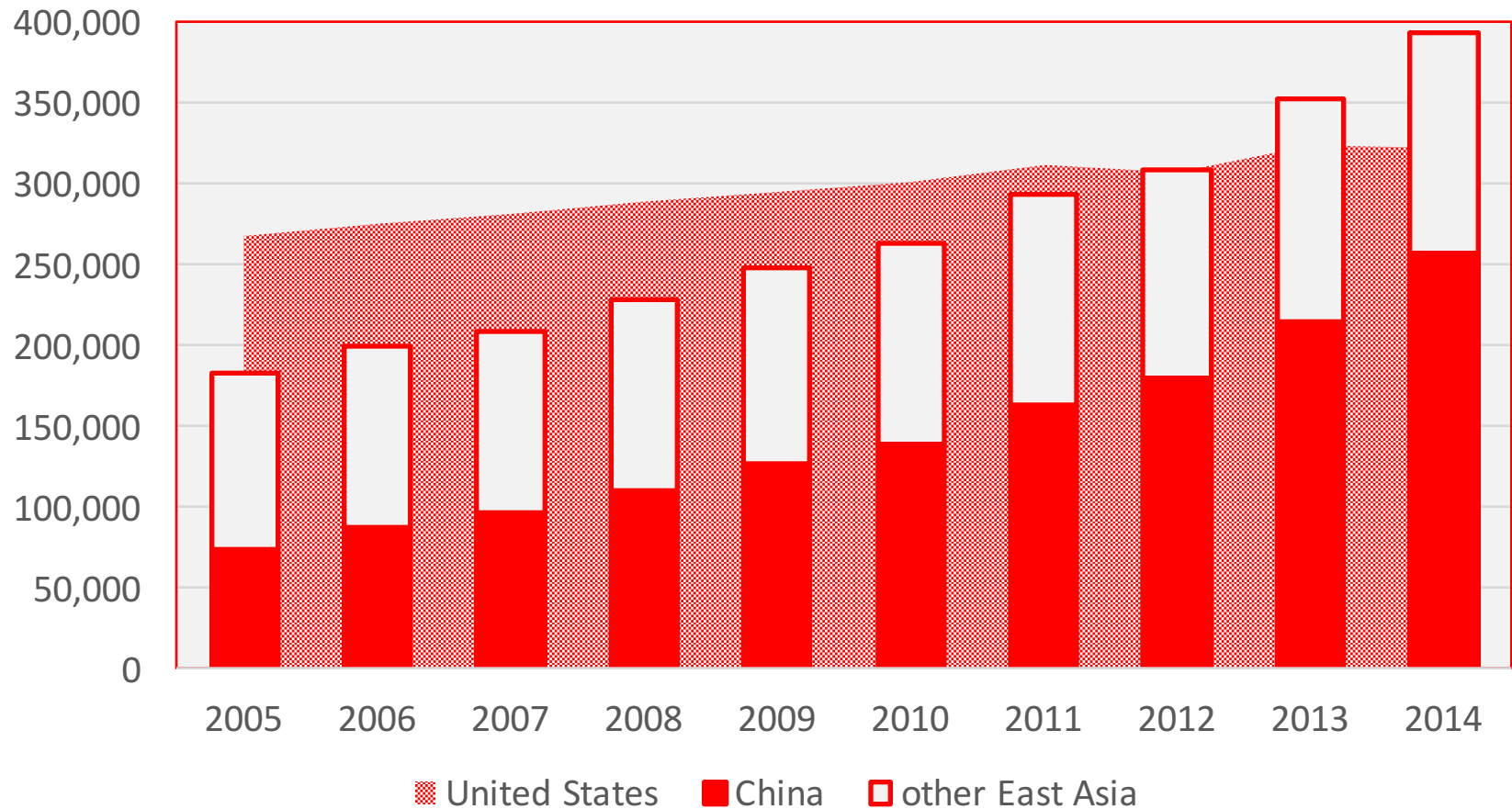
# Investment in R&D in 2014 in selected East Asian, Western European and Anglophone countries

Investment in R&D as a proportion of GDP (OECD data 2016)  
Data for USA, Australia and Singapore 2013, data for Switzerland and Brazil 2012, data for India 2011



# Annual science papers 2005-2014: USA, China, other East Asia

Thomson-Reuters/UNESCO data. Papers include reviews and notes. Other East Asia = Japan, Korea, Singapore, Vietnam (Taiwan absent from UNESCO data)



# Proportion (%) of world's top 1% papers by citation rate: USA, EU, China and Japan, 2012

