

Notes on the Global Higher Education Landscape

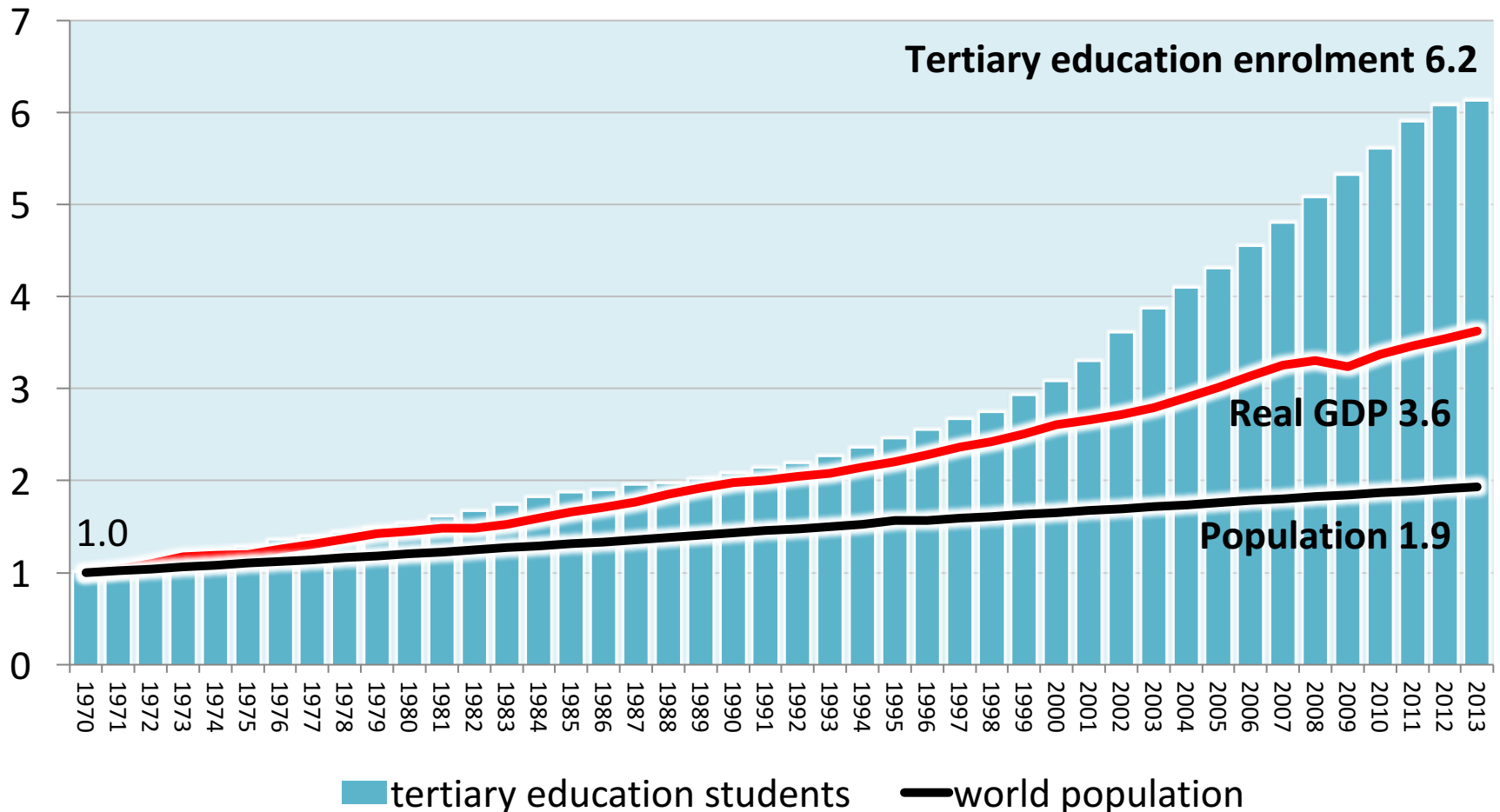
Simon Marginson
UCL IOE/ CGHE
27 September 2017

Higher education and science in the age of Trump, Brexit and Le Pen

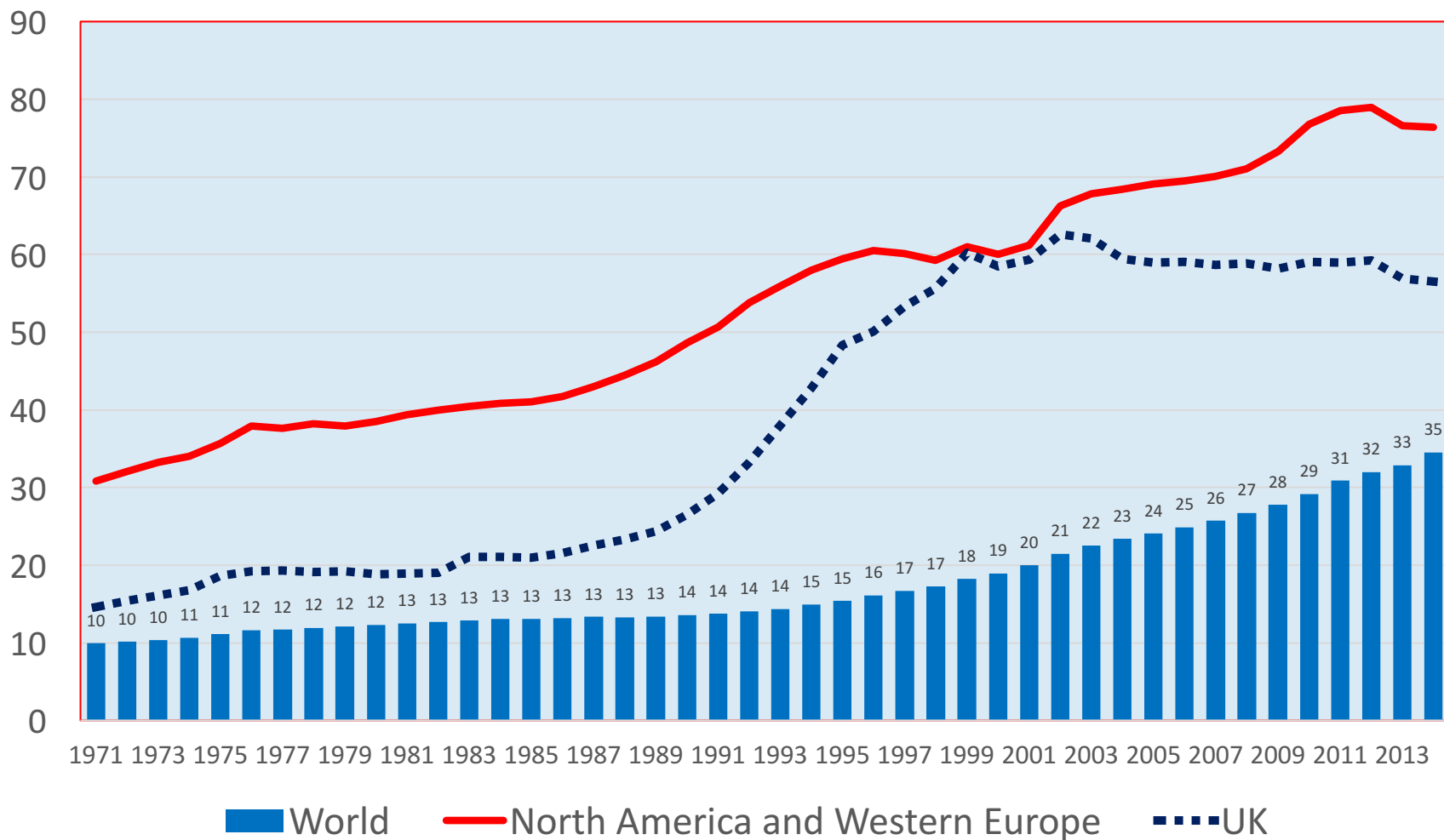
1. Explosive growth of role and reach of HE
2. Contested globalisation + economy/culture split
3. Shifting global geo-politics / rise of East Asia
4. Economic and social inequality is not being tackled
5. Trump and the new politics, Brexit
6. Flow-ons for higher education
 - Old legitimations? (Bildung, science, meritocracy, jobs)
 - Funding problems, casual privatisation, and dubious system design, leading to under-learning in growing systems in emerging countries
 - Higher education as part of the new political segmentation
 - Internationalism: Migration resistance *vs.* mobility

World GDP, population and tertiary enrolment, 1970-2012 (1970 = 1.0)

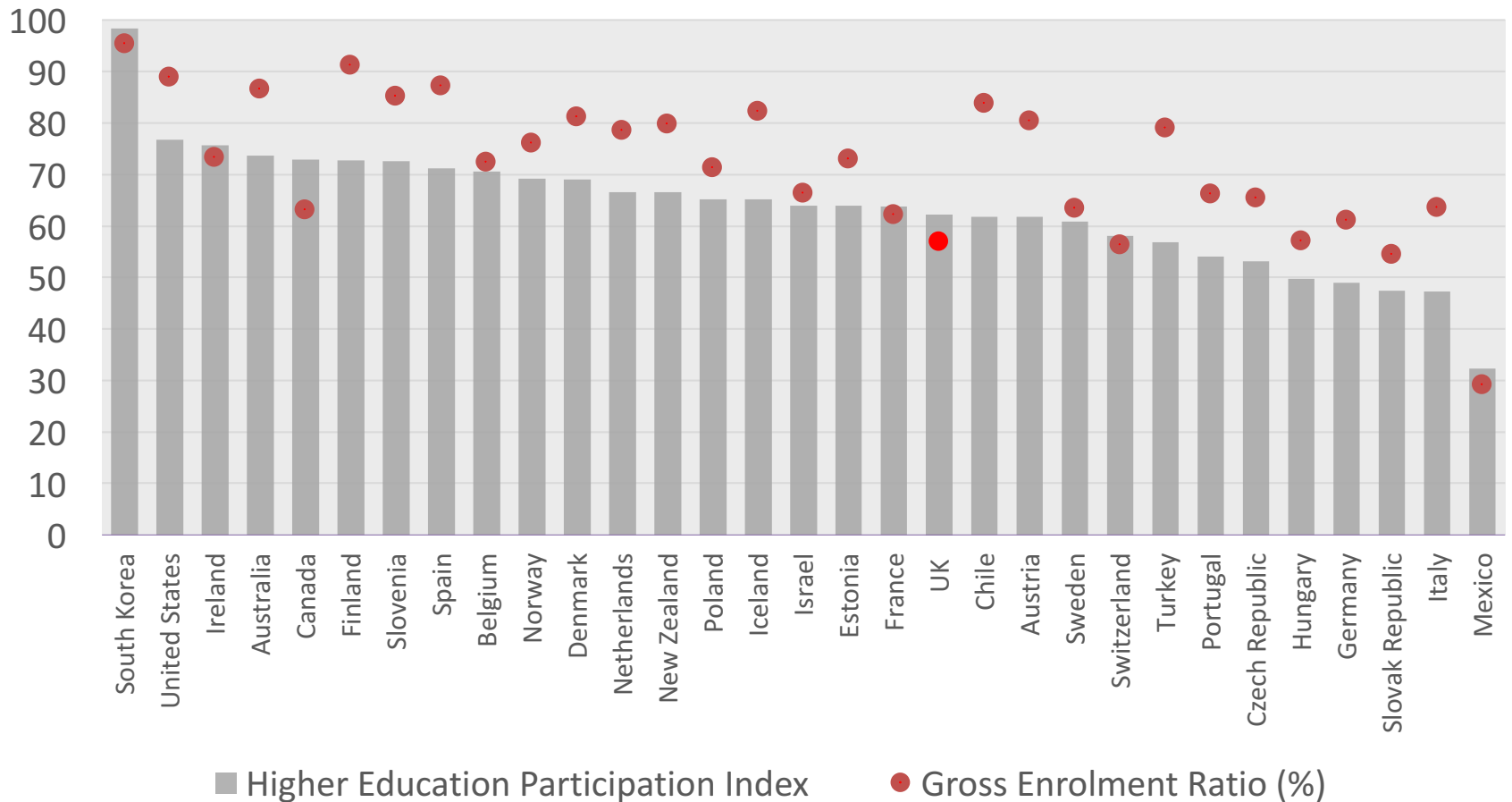
1970 = 1.0. Constant price GDP. Data from World Bank, UNESCO Institute of Statistics



Gross Tertiary Enrolment Ratio (GTER, %): World, UK, North America/Western Europe, 1971-2014

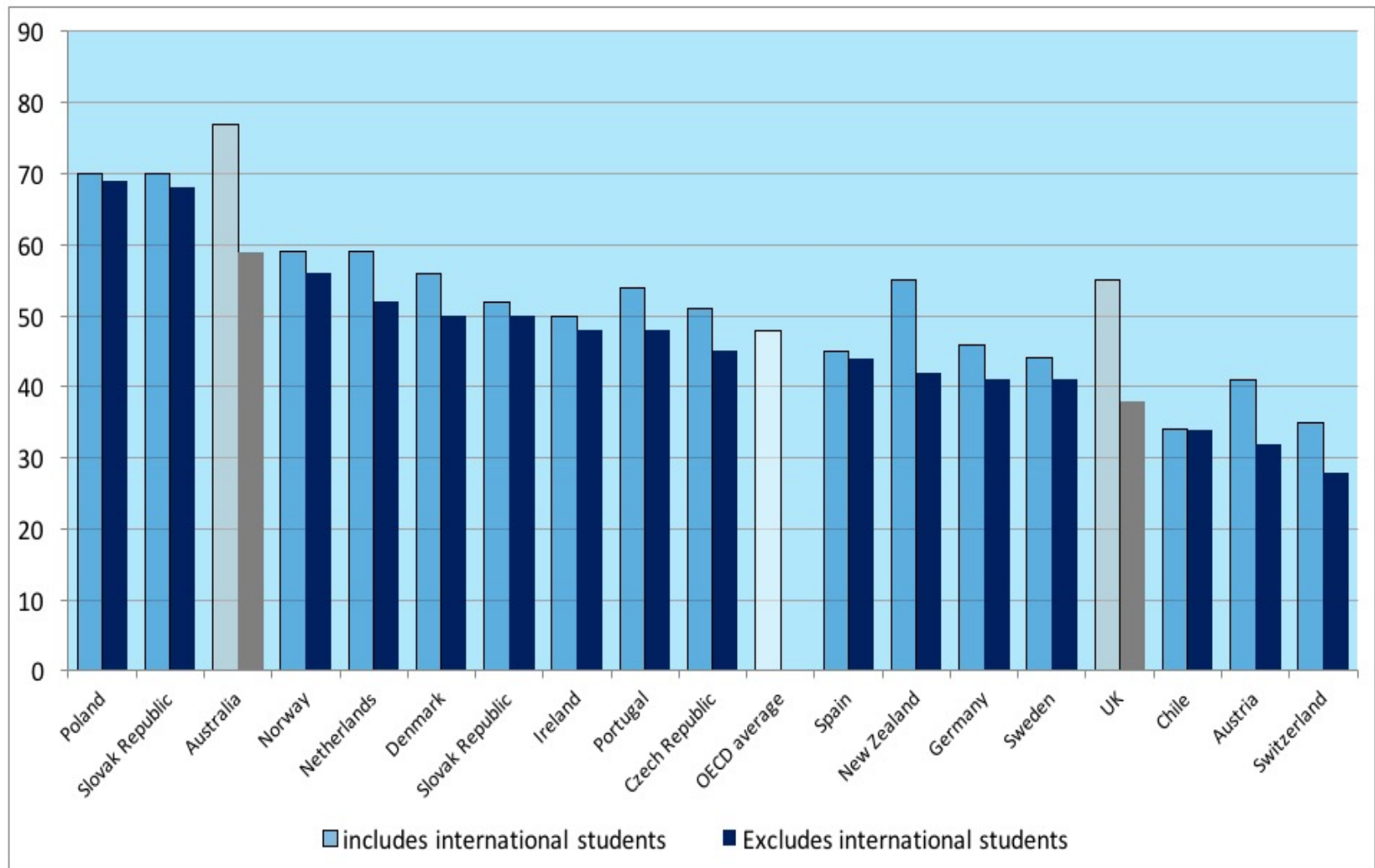


Comparative tertiary-level participation: GER and the Clancy Index for OECD countries



Effect of international students on rate of entry into degree programmes by age 25

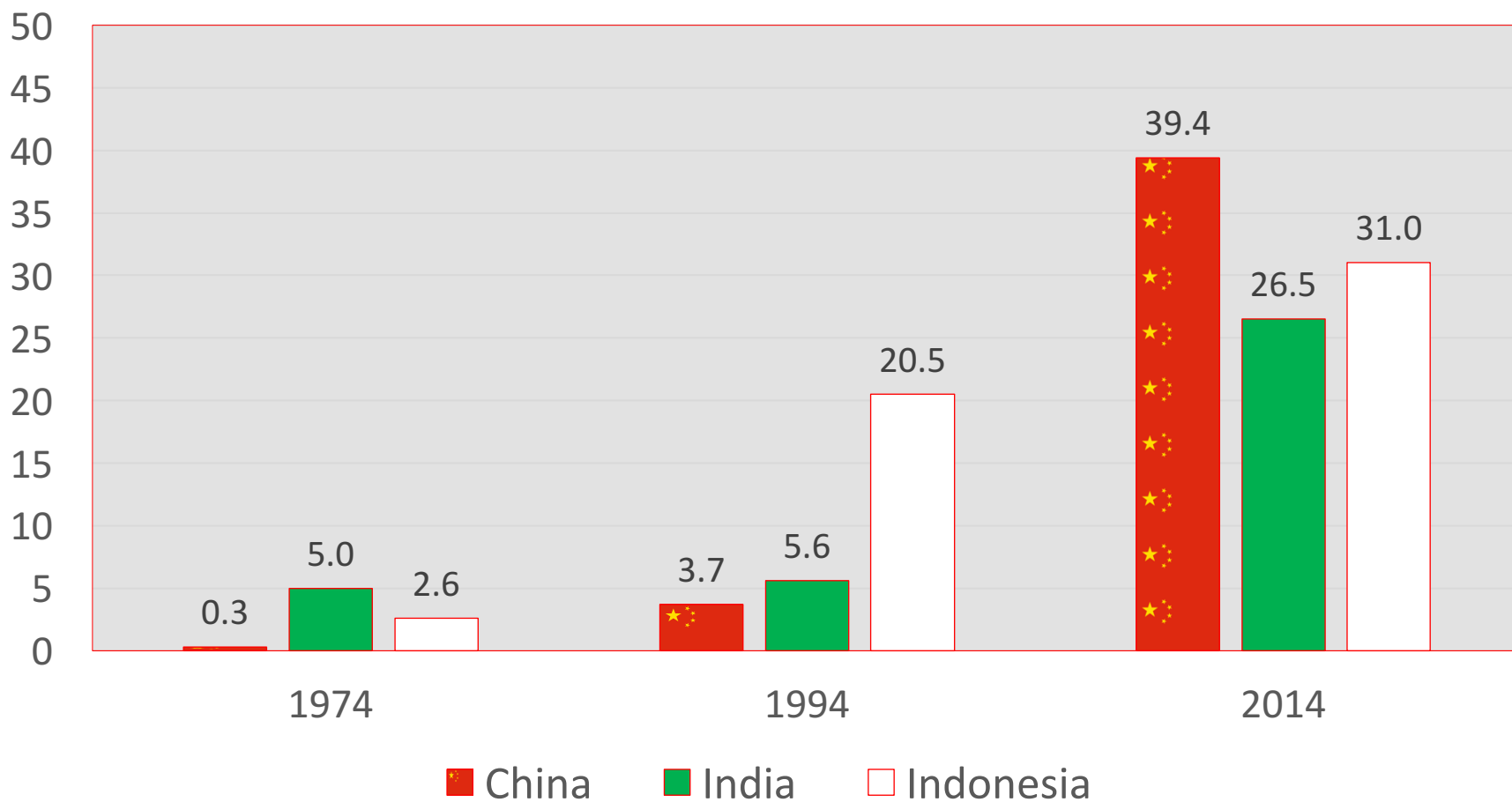
OECD average includes international students. Source: OECD 2014



Regional Gross Tertiary Enrolment Ratios (%), 1970, 1990, 2010 and 2014

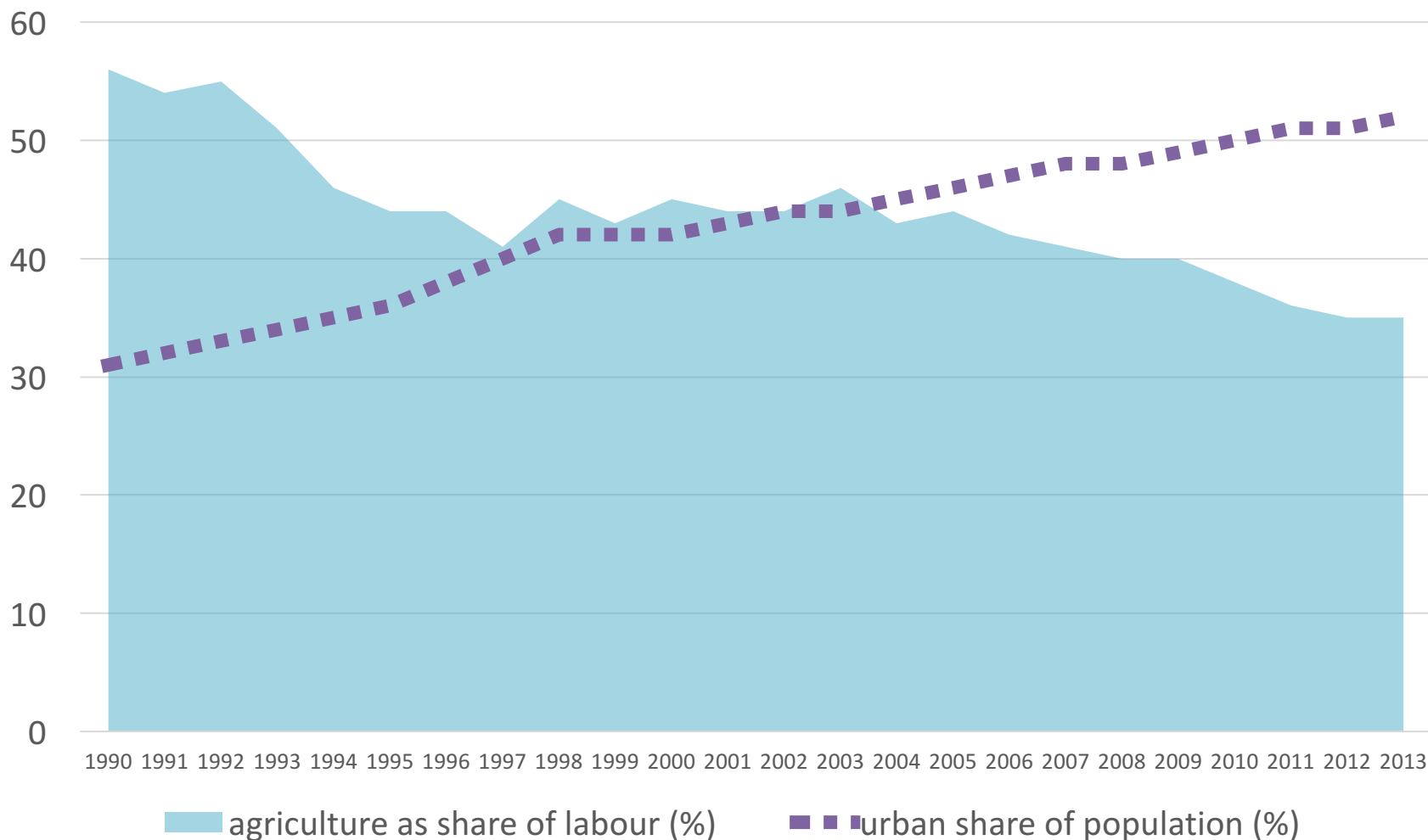
	1970	1990	2010	2014
World	10.0	13.6	29.3	34.5
North America/ W. Europe	30.6	48.6	76.9	76.4
Central and Eastern Europe	30.2	33.9	67.9	74.4
Latin America and Caribbean	6.9	16.9	40.9	44.7
East Asia and Pacific	2.9	7.3	27.3	39.1
Arab States	6.0	11.4	25.5	28.9
Central Asia	n.a.	25.3	26.7	25.7
South and West Asia	4.2	5.7	17.4	22.8
Sub-Saharan Africa	0.9	3.0	7.7	8.2

Tertiary participation rate Indonesia, China, India: 1974, 1994, 2014 (%)

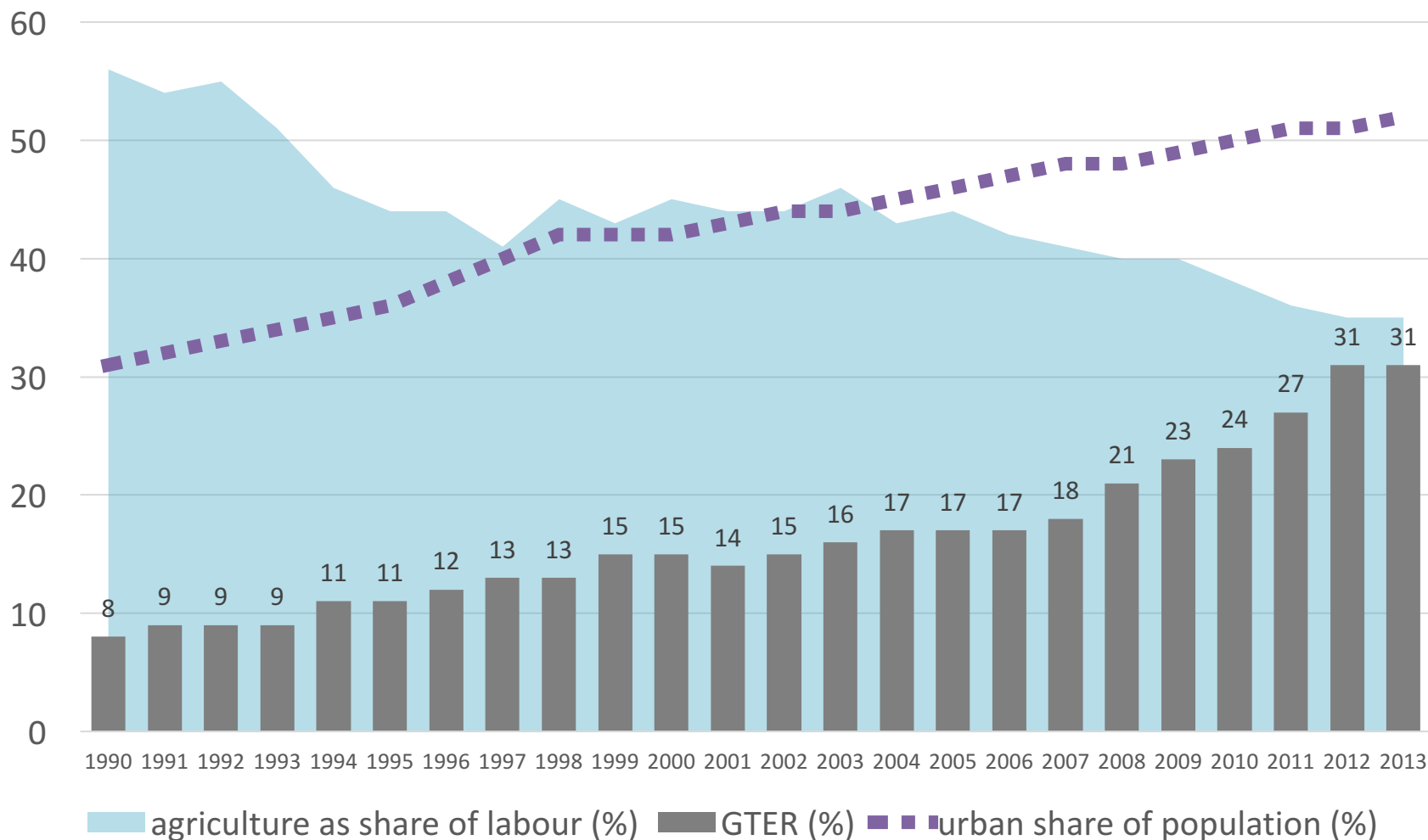


In India the UNESCO data are for 1973, 1995, 2014

GTER and urbanisation in Indonesia 1990-2013 (1)



GTER and urbanisation in Indonesia 1990-2013 (2)



GDP and TER, 2013 or nearest year

GDP per head in nation (2011 USD, PPP)	Number of countries at each level of massification, as measured by the TER (Tertiary Enrolment Ratio)		
	GTER above 50%	GTER 15-50%	GTER below 15%
Above \$30,000 per head	25	10	0
\$20,001-30,000 per head	15	3	1
\$10,001-20,000 per head	14	17	2
\$5001-10,000 per head	2	13	7
\$5000 or less per head	0	13	32
total	56	56	42

Growing number of universities with over 10,000,
5000 and 1200 papers in Web of Science:
2006-09 to 2012-15 (Leiden University data)

Universities publishing over	2006 to 2009	2007 to 2010	2008 to 2011	2009 to 2012	2010 to 2013	2011 to 2014	2012 to 2015
10,000 papers	25	26	31	34	39	46	50
5000 papers	122	128	135	143	154	171	190
1200 papers	594	629	657	682	712	743	780

51 countries with 1000 science papers p.a.

US National Science Foundation data for 2011

ANGLO-SPHERE	EUROPE EU NATIONS		EUROPE NON-EU	ASIA	LATIN AMERICA
Australia	Austria	Italy	Croatia*	China	Argentina
Canada	Belgium	Netherlands	Norway	India	Brazil
N. Zealand	Czech Rep.	Poland	Russia	Japan	Chile*
UK	Denmark	Portugal*	Serbia*	Malaysia*	Mexico
USA	Finland	Romania*	Switzerland	Pakistan*	M.E/AFR
	France	Slovakia	Turkey	Singapore	Iran
	Germany	Slovenia*	Ukraine	South Korea	Israel
	Greece	Sweden		Taiwan	Saudi Arab.*
	Hungary	Spain		Thailand*	Sth. Africa
	Ireland	Sweden			Egypt
					Tunisia*

* Reached 1000 papers since 1997 (11 out of 51 nations)

Potentials of more educated and knowledgeable society

In the Kantian discourse of modernity, arguably foundational to European education systems, the aim of education is ‘the active autonomous person within the framework of social life’, a rational subject who uses reason in a public way and ‘lives in the public sphere among other individual beings’.

~ Ari Kivela (2012), ‘From Immanuel Kant to Johann Gottlieb Fichte’, in P. Siljander, A. Kivela and A. Sutinen, A. (eds.), *Theories of Bildung and Growth*, p. 59

Research finds that people with tertiary education, on average ...

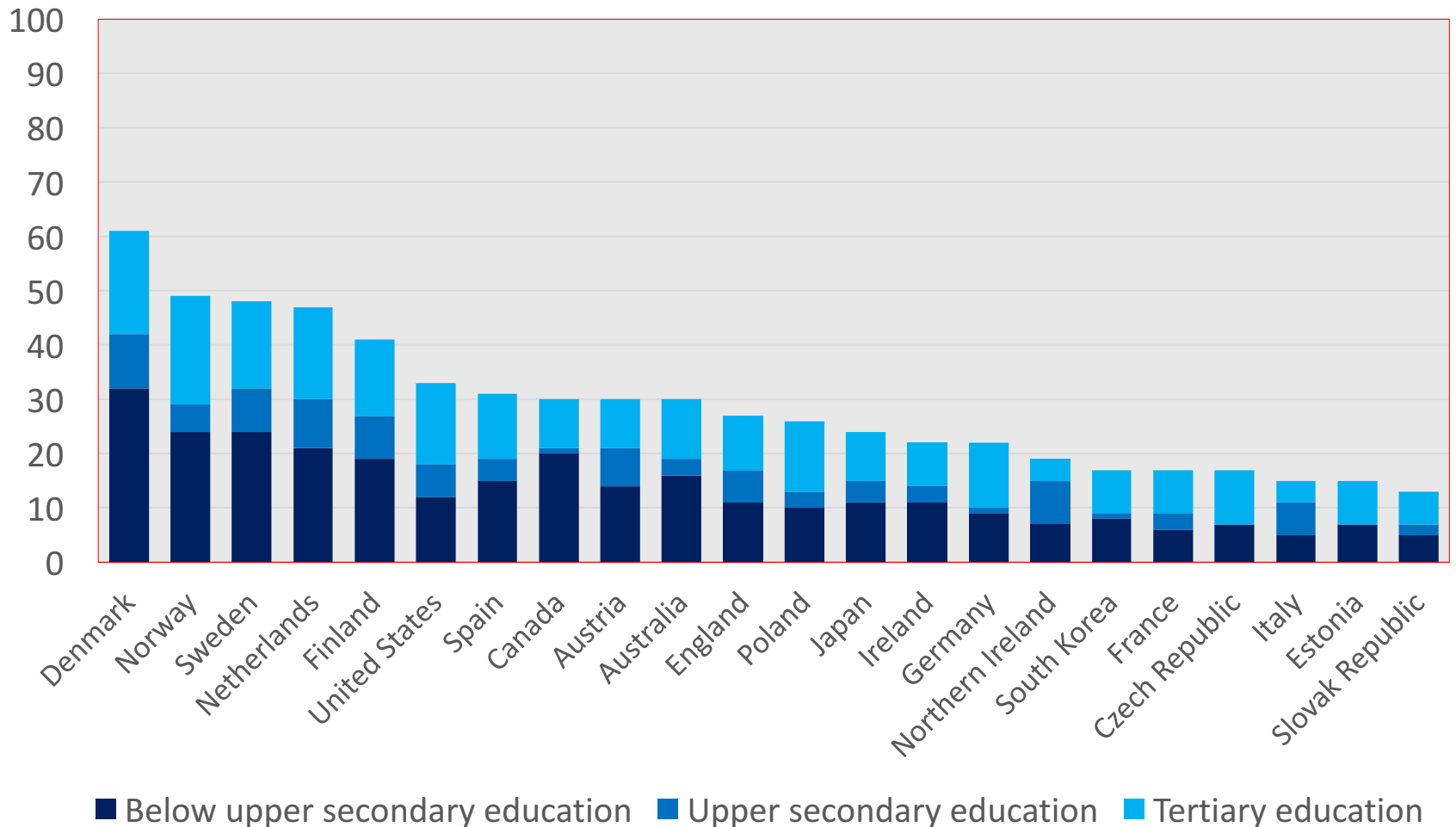
- Have a larger range of employment options
- Are more likely to be in good health, as are their families
- Have more advanced levels of skill in the use of information and communications technology
- Are more geographically mobile, independent of income level (greater personal confidence and agency freedom)
- Report higher levels of inter-personal trust (also = greater personal agency)
- Are more likely to state that they have a say in government (also = greater personal agency)
- Are more positive about migration and cultural diversity
 - Walter McMahon, *Higher Learning, Greater Good* (2009)
 - OECD, *Education at a Glance* (2015)
 - OECD, *Perspectives on Global Development 2017: International migration in a shifting world* (2016) etc

Educational level and ICT and problem solving skills, OECD survey, selected countries

Country	GTER 2013 (%)	Proportion of 25-34 year olds with 'good ICT and problem solving skills', by highest completed educational qualification, nine countries, 2012		
		below upper secondary education (%)	upper secondary or post-school non-tertiary (%)	tertiary education (%)
Finland	91	9	29	57
United States	89	3	21	51
Australia	87	15	33	56
Russia	78	13	16	27
Norway	76	15	32	59
Poland	71	2	7	37
Japan	62	8	24	49
England (UK)	57	10	30	53
Canada	n.a.	5	26	47

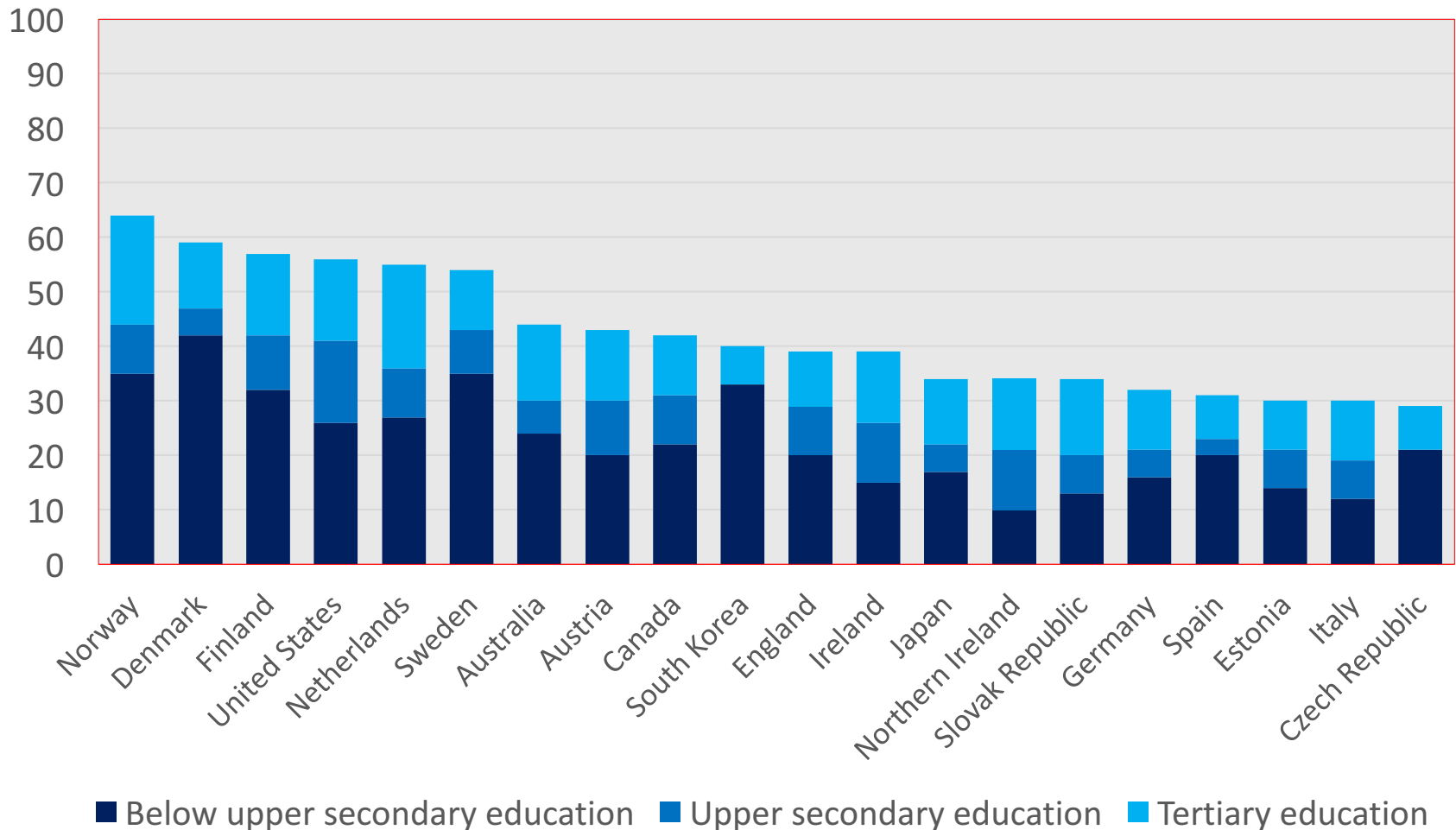
Level of education and interpersonal trust, OECD 2014

Q. 'Do you trust other people?' % answering 'yes'



Level of education and political connectedness, OECD 2014

Q. 'Do you believe you have a say in government?' % answering 'yes'



Contested globalisation + economy/culture split

- The globalisation of knowledge and culture continues to roll out, consensual people mobility is strong, *but—*
- Economic globalisation slows, even falters
- The state fights back: Resurgent nationalism and nativism, some retraction from global/regional levels
- Partial fragmentation of global communicative space (e.g. China limits Internet, political cyber assaults, cyber terrorism, commercialisation)
- Migration is contested in more countries, amid mobility driven by crisis and poverty, and urban terror
- Shifting geo-political balances

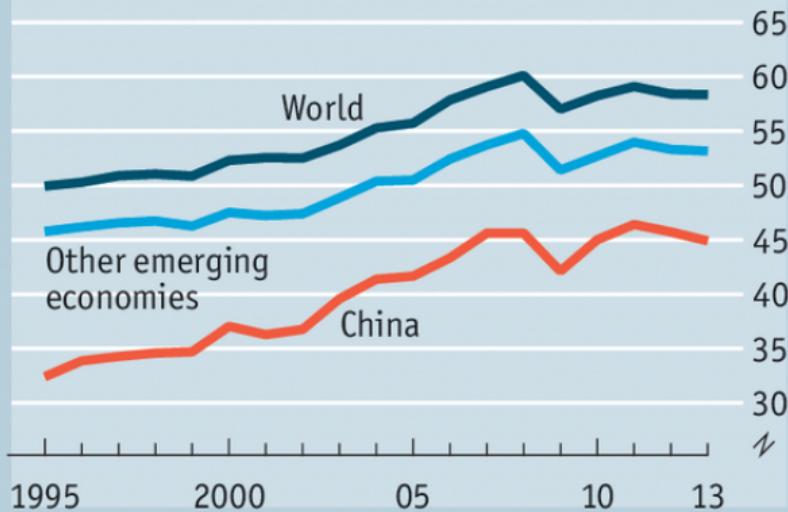
Economic globalisation losing momentum

- Cross-border supply chains are politically vulnerable
- Potential of national tax breaks etc largely exhausted
- Smarter local companies nuance local markets better, differentiation of some global products
- Financial performance of multinationals no longer outstrips that of nation-bound companies, *except* in the tech sector. Multinational share of total profits down from 35% to 30% in last ten years
- Foreign Direct Investment as share of global GDP peaked in 2007 and is now back to mid 1990s level

Economic globalisation off the boil

Rising no more

Share of exports that participate in cross-border supply chains, %



Sources: IMF; UNCTAD

Total flows of foreign direct investment
As % of global GDP



Growing tensions between national public goods and global public goods in higher education?

A good example is the conflict between low migration and border security policies in the UK, and inward international student flows

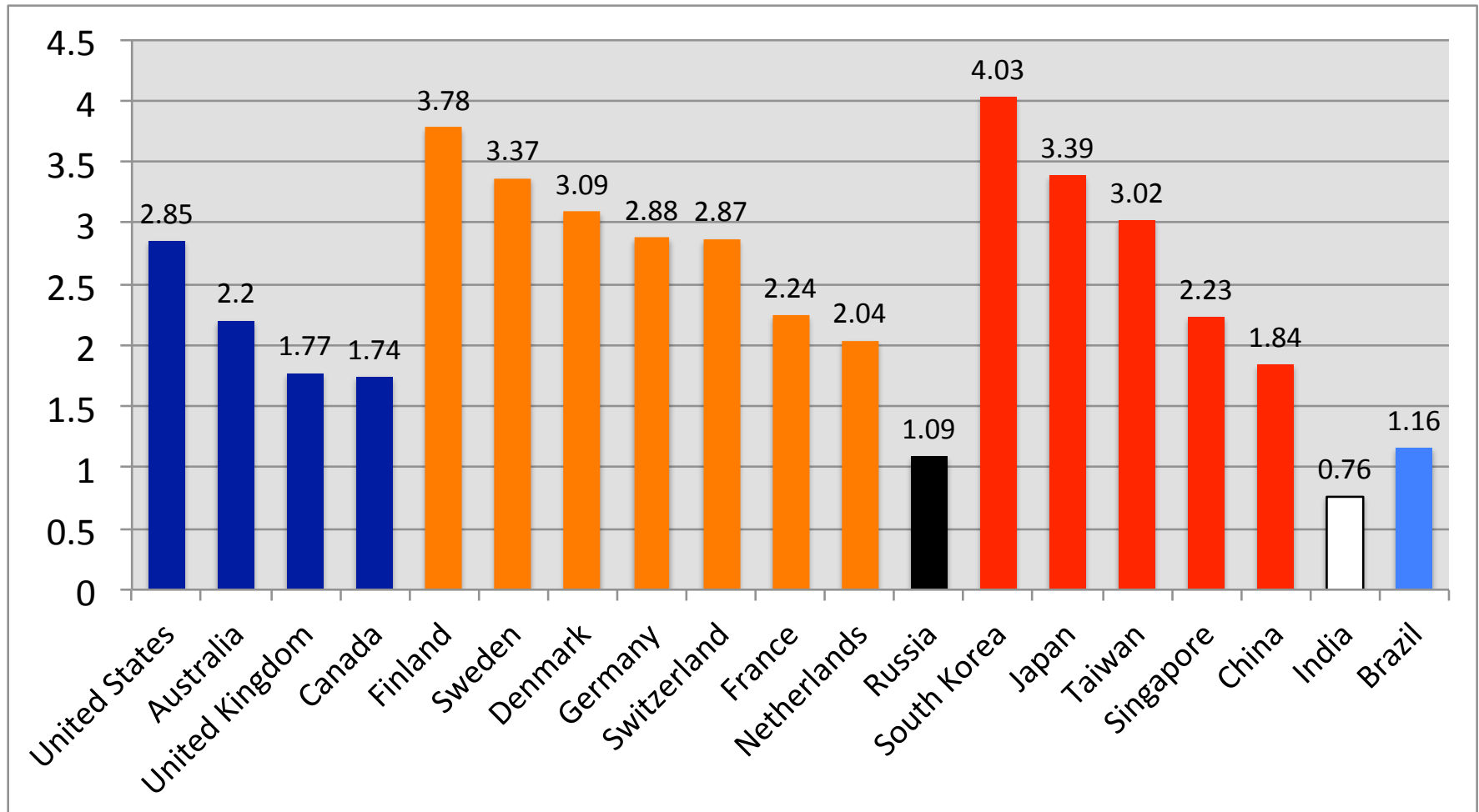
National public goods	Global public goods
Maintenance of border security and a bounded and stable national identity	Flows of international students and faculty: new ideas, new languages, diverse cultures
Higher education builds cities, regions and local communities	Globally networked higher education brings the world closer, addresses global problems
Higher education provides opportunities for upward mobility to local populations	Opportunities for local and international students (but amid growing local inequality)
Higher education enables graduates to enjoy secure and stable living standards	Cross-border mobility creates opportunities (but not all locals share those opportunities)

Shifting global geo-politics

- Asia does not share the political problems of Europe and the United States
- China and India will together dominate world GDP, and graduate numbers, by 2050
- Asian middle class is growing from 0.5 billion in 2010 to 1.75 billion in 2020
- China now the leading apostle of peaceful globalisation (albeit primarily focused on economic globalisation)
- In future much of the world's science and technology will come from East Asia
- All this triggers deep-seated anxiety – both elite and popular – in the old imperial countries USA and UK

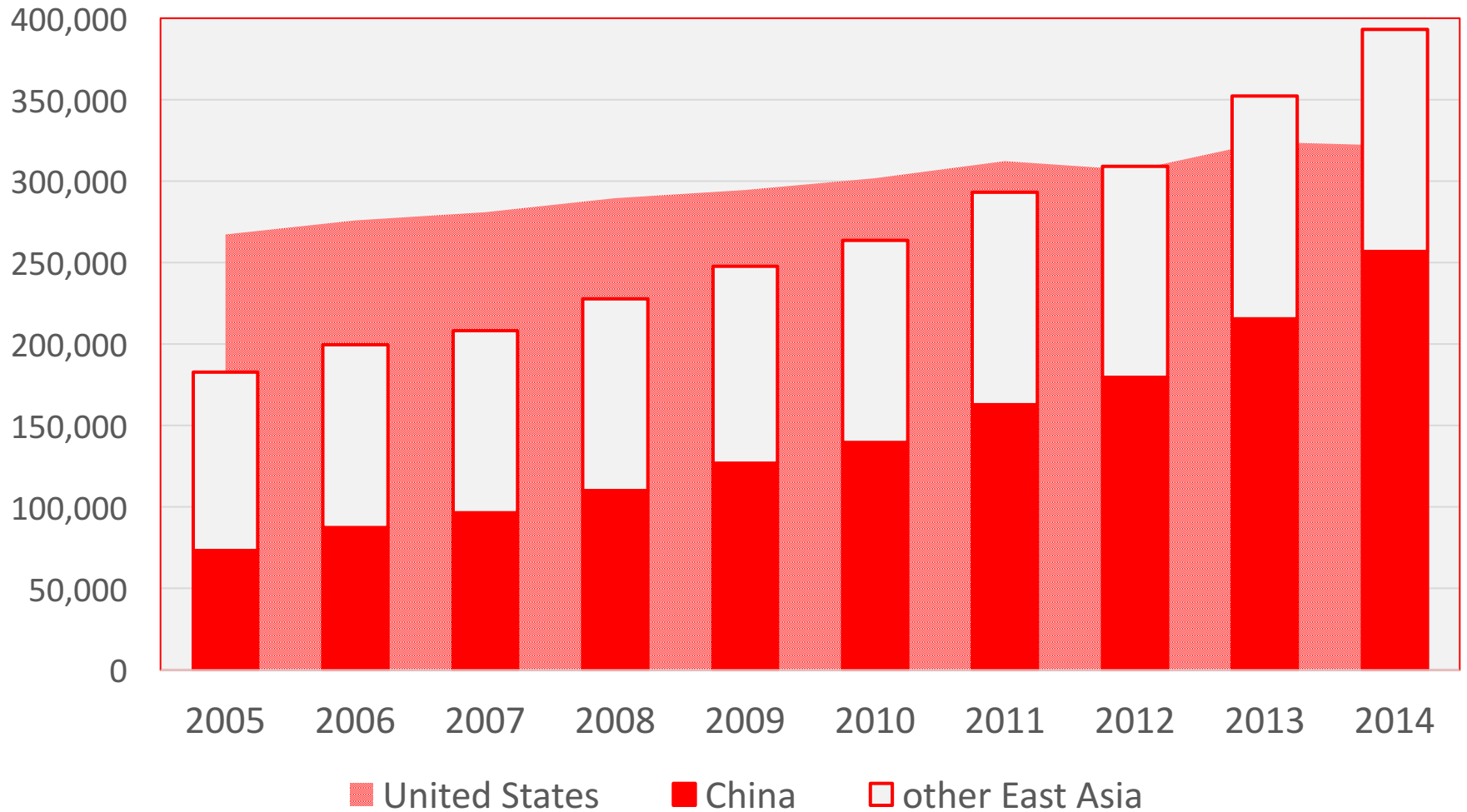
Investment in R&D, selected countries

*Investment in R&D as a proportion of GDP, 2011, selected countries
(OECD data 2013)*



Number of science papers 2005-2014: USA, China, other East Asia

Web of Science/UNESCO data. Papers include reviews and notes.
Other East Asia = Japan, Korea, Singapore, Vietnam



High citation papers, in top 10% of research field, in maths and physical sciences, 2012-2015 (Leiden data)

World rank	University and system	Mathematics and Computing
1	Tsinghua U CHINA	367
2	Nanyang TU SINGAPORE	259
3	Zhejiang U CHINA	256
4	Huazhong UST CHINA	250
5	MIT USA	245
6	Harbin IT CHINA	236
7	National U SINGAPORE	226
8	Stanford U USA	208
9	Xidian U CHINA	205
10	Shanghai JT U CHINA	196
11	City U Hong Kong HK	188
12	U Texas Austin USA	187
13	South East U CHINA	184
14	UC Berkeley USA	184
15	Beihang U CHINA	177

World rank	University and system	Physical Sciences and Engineering
1	UC Berkeley USA	1176
2	MIT USA	1175
3	Tsinghua U CHINA	1054
4	Stanford U USA	976
5	Nanyang TU SINGAPORE	931
6	Harvard U USA	875
7	Zhejiang U CHINA	857
8	U Cambridge UK	801
9	National U SINGAPORE	749
10	U Science & Tech. CHINA	720
11	ETH Zurich SWITZERLAND	678
12	U Tokyo JAPAN	649
13	Shanghai JT U CHINA	638
14	Peking U CHINA	636
15	Caltech USA	635

Combining all high citation papers in maths, computing, physical sciences, engineering, 2012-2015 (Leiden data)

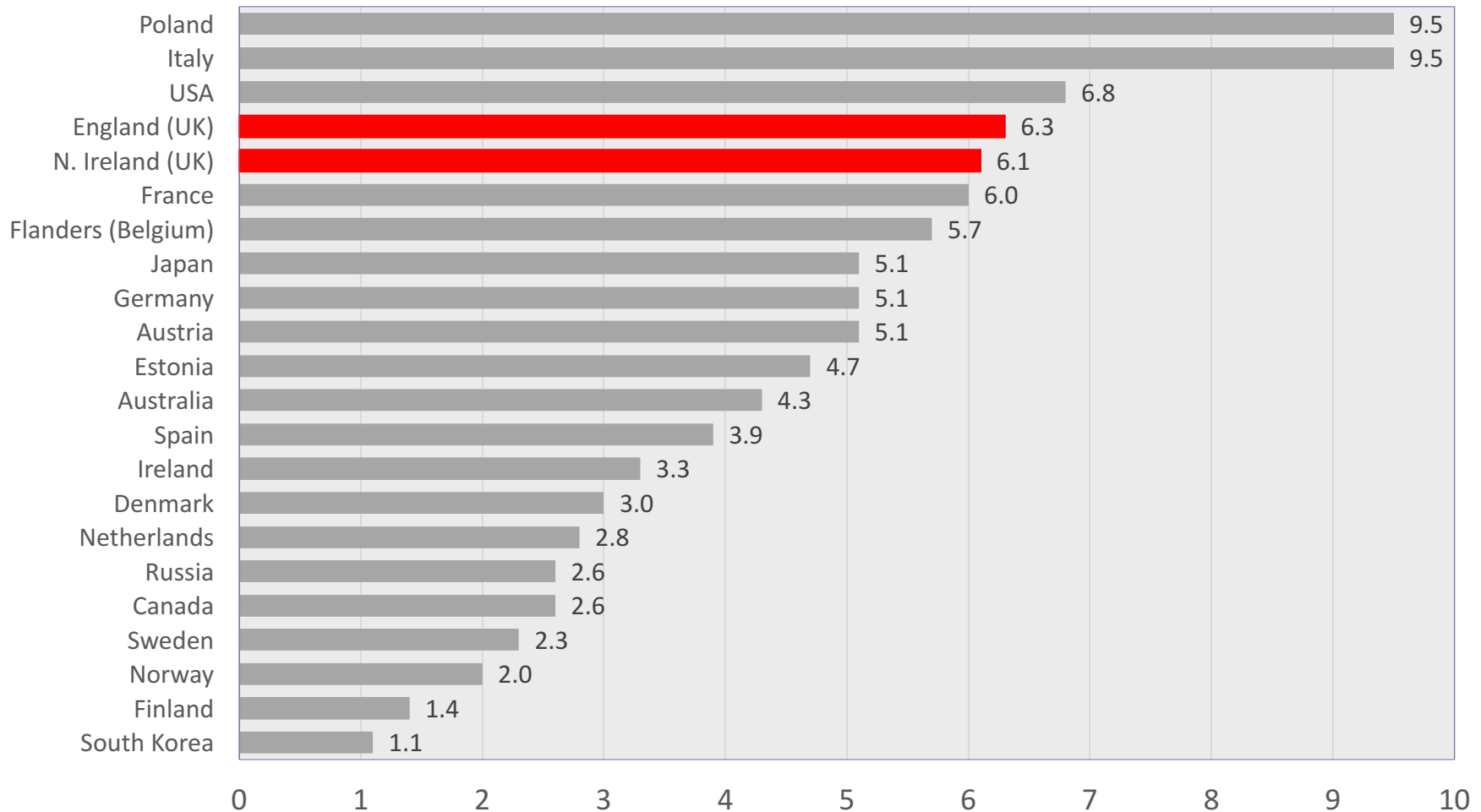
World rank	University and system	High citation papers in Mathematics, Computing, Physical Sciences and Engineering
1	Tsinghua U CHINA	1421
2	MIT USA	1420
3	UC Berkeley USA	1360
4	Nanyang TU SINGAPORE	1190
5	Stanford U USA	1184
6	Zhejiang U CHINA	1113
7	Harvard U USA	1008
8	National U SINGAPORE	975
9	U Cambridge UK	936
10	ETH Zurich SWITZERLAND	842
11	U Science and Technology CHINA	835
12	Shanghai Jiao Tong U CHINA	834

Social and economic inequality

- World poverty is reducing and inequality between countries has reduced
- But inequality within two thirds of countries is increasing
- Squeeze on base wages *and* middle class in much of OECD - average pay in UK down 7% since 2008
- Destabilisation of full-time career work, emerging threat to jobs in automated manufacturing and services
- Austerity policies aren't working
- No one has a policy solution, inequality just keeps rising
- In many (not all) countries higher education is implicated

Breaking through? Disadvantage of 20-34 year olds without tertiary-educated parents, 2012

For example in Poland, a 20-34 year old person with at least one tertiary-educated parent is 9.5 times as likely to participate in tertiary education, as a person whose parents had less than upper secondary education. Data: OECD



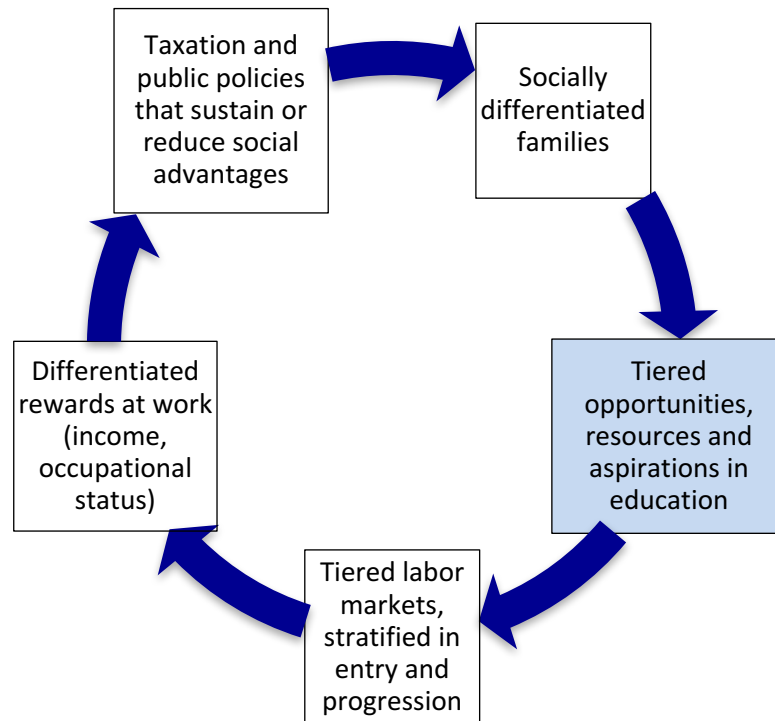
Different higher education system settings change patterns of social equality/inequality



BUT most people see higher education, not stratified societies, as driver of graduate outcomes

- The human capital myth (education creates jobs) is well entrenched, HE 'employability' is held to account, yet ...
- As participation expands towards universality, dispersion of graduate returns, and unmet expectations, must grow
- In the UK Teaching Excellence Framework the measures of 'teaching excellence' are not student learning achievement, they are graduate salaries, employment rates and 'student satisfaction'
- Like research rankings, this is not a framework in which there can be a general flourishing of higher education
- The UK TEF will be followed in some other countries

- Growing social inequality means that in many countries, the education meritocracy for most people is a myth
- As participation expands, those *not* entering higher education are worse off (why should they love HE?)
- There's not much obvious trickle-down from university research to non-professionals and rural towns either



Trump and the new politics

- Nativist 'strong man' rule in Turkey, Hungary, Russia bears down on international links
- China tightens up internal debate, internationalisation may be in question
- Trump, Brexit, politics of big data and cyber-intervention – democratic conduct of elections is in doubt
- Politics as reality TV: Trump as spectacle
- US sinks into all-round identity politics, cultural polarisation, inclusive democracy also under threat
- Campaign against 'urban cultural elites' (sweeps up serious media, science, universities, policy discourse) = rejection of Kantian/Enlightenment public rationality
- Higher education as an element in cultural polarisation

Politics as reality television

“Forty years of what some people call neoliberalism have long since scaled down most people’s expectations of what government can achieve; for most people, politics has tended to resemble a distant game, replete with both irrelevance and tedium, which leaves 99% of lives untouched. In that context, even if he achieves next to nothing, the spectacle of a president endlessly provoking the liberal establishment, speaking to the prejudices of his electoral base, and putting on the mother of all political shows, has an undeniable appeal – to the point that a second Trump term might be a more realistic prospect than many would like to think.”

~ John Harris, *The Guardian*, 30 August 2017

“And if everything is a circus...”

“And if everything is a circus, who cares about the bread?”

~ John Harris, *The Guardian*, 30 August 2017

Not a diversion from ‘real government’, a new kind of real government

“Social media are dissolving the connection between everyday experience and political argument to the point that the latter often seems to take place in its own self-sealed universe, purely as an ever more hysterical kind of entertainment. And from that, no end of awful political consequences could follow.”

~ John Harris again, 30 August

“... what if it has gone, and there is no way of getting it back?”

“Certainly, Trump will not be the last leader to so brazenly leave reality behind. We have a whole lexicon – rhetoric, presentation, ‘spin’ – for the supposedly ephemeral aspects of politics, as if beneath them lurks the noble stuff to which we can somehow return. But what if it has gone, and there is no way of getting it back?”

~ Harris

Brexit and educational level, June 2016 referendum

	LEAVE	REMAIN
Total (same for men and women)	52	48
EXIT POLLS		
18-24 years	27	73
Higher degree	36	64
First degree	43	57
Secondary education	64	36
Primary education	72	28
KINGS COLLEGE LONDON STUDY		
Degree holders	26	74
No qualifications	78	22

EU and UK higher education

- 5.6% (127,440) of all students non-UK EU, 13.3% research students
- UK higher education has leveraged the larger European pool of ideas and talent to maintain a strong global position in research
- In 2007-2016, 32% of UCL's scientific papers had European co-authors. Oxford and Cambridge 30%, KCL 28%, Nottingham 21%
- From 2007-2013, the UK contributed €5.4 billion to the EU for R&D and received €8.8 billion in research grants. In all, 21% of all UK finance for R&D in 2013 was from international sources, mostly EU—Europe's highest dependence on international sources, except Ireland
- In 2015-16 there were 31,635 non-UK EU staff working in UK higher education, 16% of the workforce. At LSE it was 38%, KCL 29%, UCL and Cambridge 27%, Oxford 26%, Nottingham 18%
- In the last five years over four in ten new academic staff appointed on merit to Russell Group universities were non-UK EU citizens

Flow-ons for higher education

- Rationales at risk. Bildung? Meritocracy?
- Ambiguity: Higher education includes, excludes, stratifies
- Higher education promotes private goods for top 50%
- Attacks on higher education and also science, like nativism, can have political salience
- Migration policy, problems of student/faculty mobility
- Brexit impedes collaboration in Europe, weakens UK HE
- Dissatisfaction with graduate employability (= teaching)?
- Casual privatisation in emerging systems. Weak mass education and poor system design, under-learning results
- In some places, unstable tax/funding compacts
- Threats to university autonomy, freedom, open borders in many countries