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2. HIGHER EDUCATION AND SCIENCE IN THE AGE OF TRUMP, BREXIT AND LE PEN

INTRODUCTION

Both the number of students in higher education and scientific output are expanding rapidly, driven by globalisation, world-wide modernisation and massification. High participation higher education and national research capacity are becoming much more widely distributed. In most countries, and nearly every world region, tertiary participation is growing rapidly or is at near saturation levels as it is in much of Europe and North America. Despite Brexit combined science and education in Europe are moving forward. In East Asia the volume of students and the volume of scientific activity both now exceed Europe and in the leading East Asian universities research quality in the physical science-based disciplines is at North American levels.

Yet this remarkable fluorescence of universities and colleges is taking place under tighter funding conditions in most countries, and in a more unstable political environment, with the strident assertion of national identities and interests within the global setting. Nativism and global/national tensions cut across the ordinary operations of cosmopolitan research universities. Nativist populism, which exploits economic inequality without solving it, and exacerbates conflicts on migration while undermining the multilateral forums where they can be addressed, undermines the Enlightenment narrative at the base of the modern university – the notion of shared individual and social formation via higher education and rational public discourse.

The chapter is a quick tour across this large general terrain and provides a background setting for the other more specific chapters in the book. It includes data on developments in national higher education systems and the global patterns and connections across and between them and reflects on both the growing centrality of universities and science and the new ambiguities and perils that they face.

The chapter looks first at the expansion in higher educated populations in many countries (second section), and then the growth of research volume and the number of research-intensive World-Class Universities (WCUs) and the dispersion of research capacity among more countries (third section). Then it looks at the geopolitical shifts in higher education, with the lifting of capacity in the middle-income countries and the rise of East Asia, especially China, Singapore and South Korea (fourth section). The fifth section discusses the changing character of economic globalisation, the increase in global/national tensions in some countries, and the growing inequality of incomes in the majority of countries, an inequality in which

higher education has become implicated. The sixth section comments on the populist exploitation of these factors, including the positioning of universities as part of the problem, and the way the division between the higher educated and others played out in Brexit and the rise of Trump – despite the fact that higher education is not the main driver of income distribution, and the mobility of international students (or any other migration) is not the maker of inequality or poverty. A brief conclusion (seventh section) follows.

THE GROWTH OF PARTICIPATION

Between 1971 and 1995 the worldwide Gross Enrolment Ratio (GER) at tertiary level rose slowly from 10 to 15 per cent of the school leaver age cohort, with a more substantial increase in the richest region, North America and Western Europe, from 31 to 59 per cent. After that enrolments began to increase much faster than GDP and on a worldwide basis. Between 1995 and 2014 the worldwide GER rose by an average of one per cent a year, from 15 to 35 per cent – note that four fifths of tertiary students are in degree programmes – and approached 80 per cent in North America and Western Europe. In a small number of countries, led by South Korea, the GER topped 90 per cent and tertiary education was becoming universal (UNESCO, 2018).

The GER exaggerates enrolments in some countries. The calculation includes migrants and mature students not part of the foundational age cohort. However, there is no doubt about the trend. By 2013, 56 national systems had participation rates of 50 per cent and another 56 were at 15–50 per cent, with only 42 of the poorest national systems, unable to sustain the infrastructure of tertiary education or a fast growing middle class with educational aspirations, at below 15 per cent. The GER has increased rapidly in all but the poorest one quarter of countries, and in every world region except Central Asia where it has stayed at about 25 per cent since the early 1990s. Even in Sub-Saharan Africa, Pakistan and Bangladesh, where the GER is very low at 10 per cent or less, it is increasingly rapidly from its low base. In Latin America the GER has reached 50 per cent, Eastern Europe has almost caught up to Western Europe, and in all countries in East Asia apart from China it now exceeds 50 per cent. In China, India and Indonesia, three of the four most populous countries (the other is the US), the GER is climbing rapidly (UNESCO, 2018).

Within the near universal trend, there is significant in-country variation in total participation, and in the social, in-country regional, ethnic and gender mix of participation both overall and in the different fields of study. The institutional configuration of participation also varies – in some countries the majority of the age group are enrolled in research universities, in others research universities serve a much smaller elite. These variations are to be expected. Just as there can be more than one form of modernisation (as the rise of East Asia, combining long historical Confucian culture with Western forms, makes clear), so also the observable universal patterns associated with modernity, including the emergence and rapid growth of higher education systems, are articulated through the full range of national histories,

traditions, cultures, and political economy and politics. Figure 2.1 compares OECD nations' participation using two measures, the GER and University College Dublin scholar Patrick Clancy's index, which combines the average rate of entry with other factors including completion and the inclusion of students from historically under-represented social groups. The graph shows that there is significant variation within OECD on both indicators and also variation in the gap between the indicators. In 18 countries the system is noticeably stronger in its raw performance at entry than on the full range of participation indicators (Clancy & Marginson, 2018).

Even where the GER or the Clancy index are the same, this conceals other variations. Though the term 'participation' and standardised data fosters a sense of equivalence, neither the quality nor the quantity of tertiary education are constant, between or within countries. Not all teachers are trained. Not all curricula are knowledge-intensive. Not all programmes are transformative. Resources are often weak. Growth is often accompanied by declining funding per student. Some institutions, credentials and earning programmes are more empowering than others.

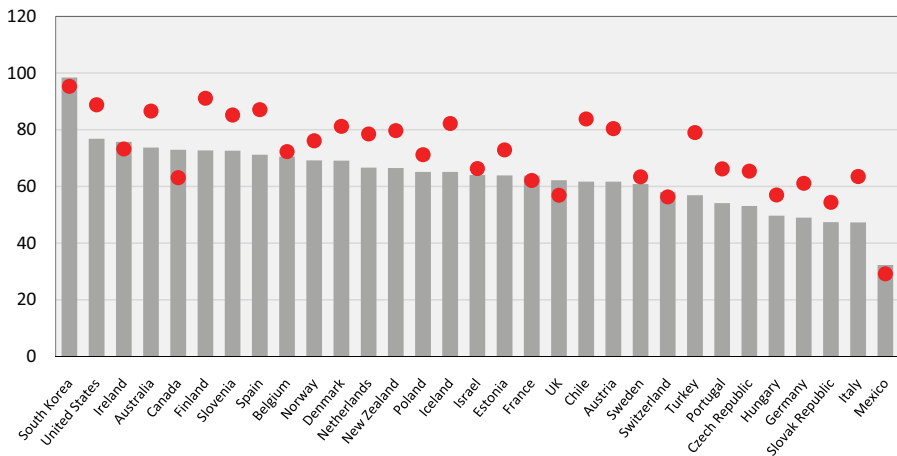


Figure 2.1. Comparative tertiary-level participation on the basis of the UNESCO gross enrolment ratio and the Clancy index, OECD countries, 2013.
(Source: Clancy & Marginson, 2018, table 2.7)

Nevertheless, taken on an average basis and on the systemic and world scales, the binary of participation/non-participation remains crucial. All else being equal, those outside higher education are much less likely to become immersed in knowledge-intensive learning than those within it. With the advance of the GER it is clear that the world is becoming more educated, and at a rapid rate.

In a study of High Participation Systems of Higher Education, released in October 2018, Brendan Cantwell, Anna Smolentseva and I find that growth in

higher education enrolments is not driven primarily by economic demand for human capital, though it is associated with the spread of higher educated labour to a larger proportion of the workforce. Tertiary education is expanding rapidly in countries with very different rates of GDP growth and diverse industry configurations. The only countries where participation remains low are those that are still predominantly Neolithic. Growth appears most closely associated with modern urbanisation and can be mapped against the growth of the urban middle classes (for this see Kharas, 2017). Higher education is provided in cities. Cities funnel mass family aspirations for higher education. Urban populations put pressure on governments to expand opportunities and governments of all political types seem to comply. Governments never reduce participation rates, or if they do so it is not for long, though they may hold down funding for participation. The medium-term outcome is always an expansion of the role of higher/tertiary education (Cantwell et al., 2018, chapter 1).

In assessing the meanings of this remarkable expansion it is essential to look outside the bounded world of higher education to the larger world beyond. Yes, it means more work in higher education, greater responsibilities, greater resource needs, larger and more professional administration and often more corporate governance, bigger classes, more heterogeneous student populations and continuing outreach to extend participation, larger institutions, greater diversity within them and within their programmes, sometimes but not always more diverse kinds of institution, often more diverse and innovative curricula and teaching methods, new systems of student selection and so on. Growth and massification transform higher education as Martin Trow famously argued (1973). But while we mostly focus on what massification means within higher education, its larger social meanings are, arguably, more important and should be more widely discussed. From the social viewpoint this is a very positive development. Not only does massification signify the widening of opportunity – though this is not in itself sufficient to create greater equality it is an expansion of human rights – massification on the present worldwide scale is a tremendous uplift in individual and collective human capability. We are seeing the emergence of more educated and knowledgeable human societies at a level that previous generations could not have imagined. Underneath the shallow talk about graduate employability and unemployment that is what is really happening.

We see in this the fulfilment on a democratic scale – albeit partial and distorted, uneven and incomplete as it is in many respects – of the Kantian notion of *Bildung*, which is education's mission of forming people as critically-minded self-fulfilling actors and public persons, steeped in social communications and lifelong learning and prepared so as to contribute to the continuing betterment of society as a whole (Kivela, 2012, p. 59). It is a lofty ideal but not an empty one. It is the idea of the Enlightenment that underpinned the Humboldtian approach in Germany and via the American university has been taken into the DNA of universities across the world.

Higher education matters above all because of two functions. First, it reproduces, creates and systematizes codified knowledge. It is not the only social institution where this happens but the most important. Second, it changes people – and changes

people by immersing them in complex transformative knowledge while at the same time immersing them within common social codes and systems. It forms people as more competent in communication and cooperation, more tolerant of difference and diversity, less nativist. On average it brings to people higher levels of confidence and agency freedom, a more advanced capacity for proactive, will-directed behaviour. They live longer, are more healthy and manage money better (McMahon, 2009). All else being equal, and on the basis of averages, graduates are more international in outlook compared to non graduates and have a greater capacity for personal mobility both social and geographic. And higher education does all this on a scale far greater than imagined by Kant, Rousseau and von Humboldt.

In successive editions of Education at a Glance the OECD has released data showing that higher education augments a broad range of individual attributes, not only earnings power and employment rate but capabilities in social relations. For example, the 2012 OECD survey of adult skills showed that capability in information technology – electronic sociability – was closely associated with level of education achieved (OECD, 2015, pp. 46–47). Figures 2.2 and 2.3 contain two further examples.

As Figure 2.2 indicates, the 2012 OECD survey also reported that people’s willingness to trust each other increases with the level of education. People with tertiary education were more likely to trust others than those with just upper secondary or lower secondary education, a finding that held after statistically accounting for differences in gender, age and income. While the level of solidaristic interpersonal trust in many countries was low in this survey, in the Nordic countries it reaches close to 50 per cent among the tertiary educated (p. 163).

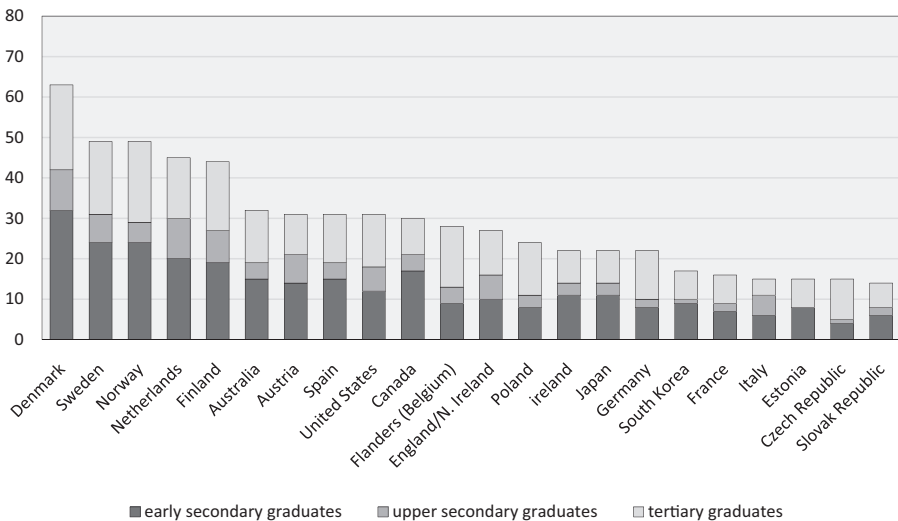


Figure 2.2. Level of education and interpersonal trust, OECD countries, 2015. Q. ‘Do you trust other people?’ Proportion (%) answering ‘yes’ (Source: OECD, 2015, p. 163)

On the question of whether people feel they have an effective connection to the political system, Figure 2.3 shows that the sense of political connection was twice as high among the tertiary educated as those with only lower secondary education. Again, the common thread in both Figures 2.2 and 2.3 is that the tertiary educated have greater social capacity, relational confidence and sense of personal agency.

The OECD’s Perspectives on Global Development 2017: International migration in a shifting world (2016) contains research data comparing the respective tendencies to migrate across borders of persons with, and without, university degrees. Among those without degrees the tendency to move across borders was correlated to income. As income rises people had more scope for mobility. The capacity for mobility appears to be economically determined. However, among those with university degrees the pattern was different. First, at a given level of income, those with degrees were much more mobile than those without. In other words, higher education helped to democratise mobility (provided higher education itself was accessed). Second, for those with degrees, as income rises, above a modest threshold of income there was little change in potential mobility. That is, the propensity to move became income inelastic. Strikingly, this suggests that because higher education helps graduates to achieve greater personal agency, it weakens the limits created by economic determination and class.

Degree level education constitutes greater personal agency, freedom, in its own right. In that respect it builds democratic capability in the larger sense, everywhere, and this happens regardless of the changing opportunity structures of the labour

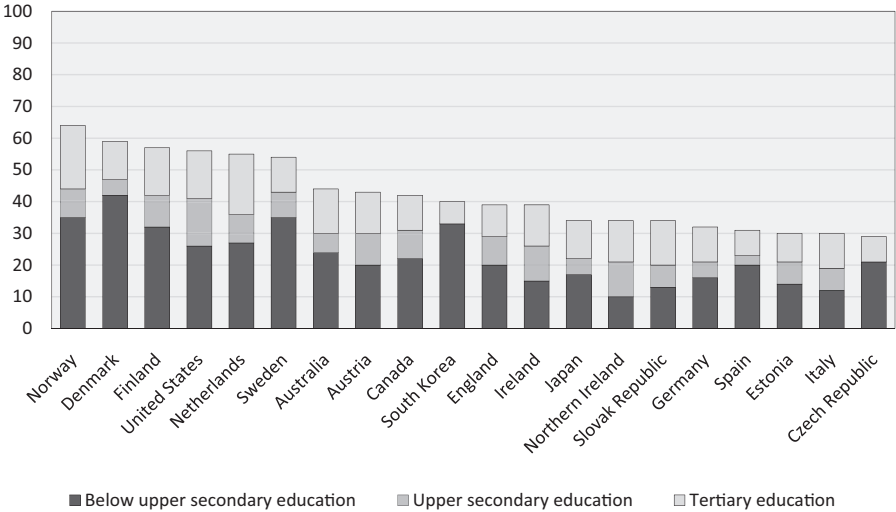


Figure 2.3. Level of education and political connectedness, OECD countries, 2015. Q. ‘Do you believe you have a say in government?’ Proportion (%) answering ‘yes’. (Source: OECD, 2015, p. 164)

markets and whether the particular political regime in the country is subject to electoral contestation or not. This contribution to personal agency (Marginson, 2018a) is made by higher education, across the world, to more people every year.

Despite the many issues facing people within higher education – despite all the legitimate concerns about the growing and destructive effects of competition in higher education, inequality, performance-management, attenuated provision and standards, and the evacuation of academic governance, to name only some – this great expansion of the social effects of higher education must be seen as positive.

RESEARCH SCIENCE

Between 2006 and 2016 the total world number of science papers as measured by UNESCO increased from 1,567,422 to 2,295,608 (NSB, 2018, table A5-27). The expanding role of research science is driven by several factors – the growing emphasis on innovation in the advice of international agencies and in national economic policies; the growing industry demand in knowledge-intensive sectors, though this demand is uneven by country; the competitive pressures generated by global rankings, which are more universal and have directly stimulated enhanced R&D investments in countries such as Germany, France, Russia, Saudi Arabia, South Korea and Japan where government has implemented WCU programmes.

Table 2.1. Expansion in the number of world universities publishing more than 10,000, 500 and 1,200 journal papers over four years, 2006–2009 to 2013–2016

<i>Number of universities publishing more than:</i>	<i>2006–2009</i>	<i>2007–2010</i>	<i>2008–2011</i>	<i>2009–2012</i>	<i>2010–2013</i>	<i>2011–2014</i>	<i>2012–2015</i>	<i>2013–2016</i>
10,000 papers	25	26	31	34	39	46	50	58
5,000 papers	122	128	135	143	154	171	190	209
1,200 papers	594	629	657	682	712	743	780	827

Source: Leiden University (2018)

In 2016, 35 countries produced more than 10,000 papers, including emerging research systems in Iran, Malaysia, Egypt and Romania. There have been spectacular increases in science paper output in countries like Iran (15.1 per cent annual growth in the years 2006–2016), India (11.1 per cent), China (8.4 per cent) and Brazil (6.6 per cent) where research funding has risen sharply (NSB, 2018, table A5-22).

One way of illustrating the growth of research science and its impact in the higher education sector is to trace the expanding number of universities at a given level of output of science papers. Table 2.1 does this. The Leiden University data show that in the four years 2006–2009 there were 25 universities that produced more than 10,000 science papers. Only seven years later the number of universities had risen to 58. There were also sharp increases at lower size levels (Leiden University, 2018).

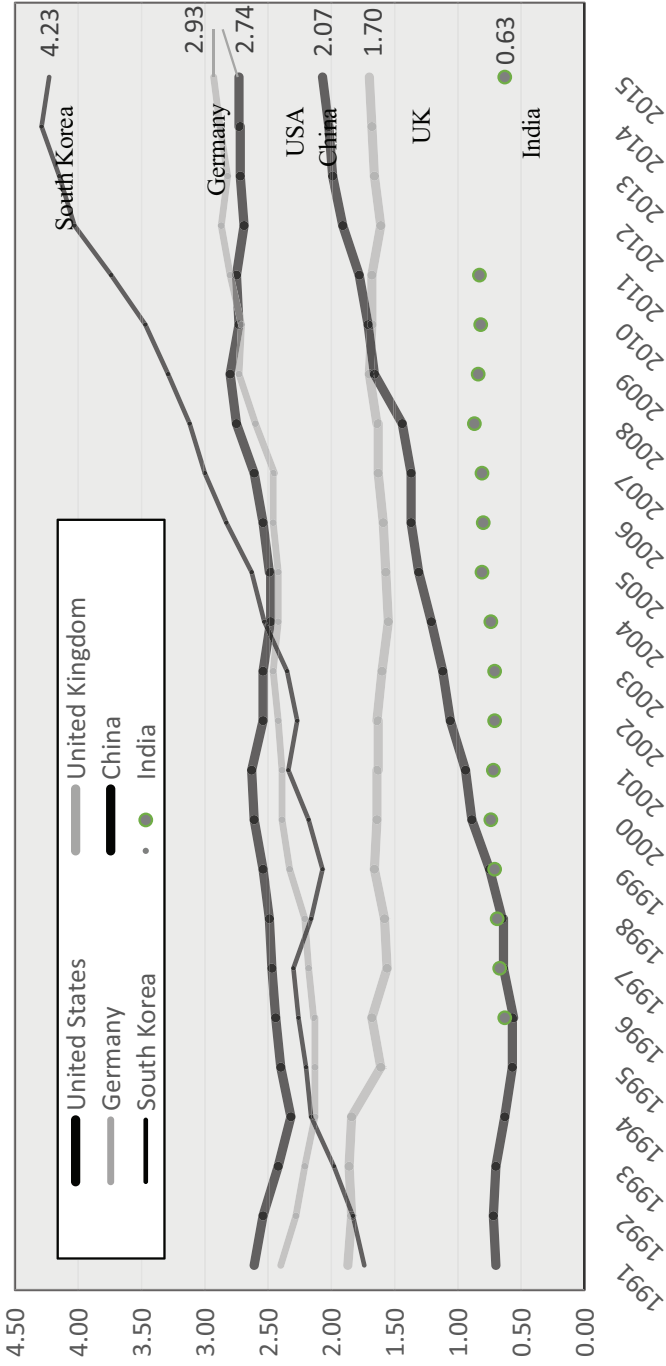


Figure 2.4. Investment in R&D as a proportion (%) of GDP, United States, United Kingdom, Germany, China, South Korea, India: 1991–2015. There are series breaks for India, with no data for 2012–2014 inclusive. (Data drawn from NSB, 2018, table A4-12)

It is significant that in most countries the main part of the growth of science is taking place in large multi-disciplinary ‘multiversities’ not in specialist disciplinary universities, government laboratories or industry, notwithstanding (or perhaps because of) the multi-purpose character of the multiversity form (Cantwell, Marginson, & Smolentseva, 2018, chapter 4). It often suits industry to draw on the subsidised research capacity of universities and the public goods they produce, rather than funding the whole process on a private basis. This valorisation of a substantial body of basic, academically controlled research sustains the university form. In other words, in the outcome the growth of science is both nurtured by and reinforcing of semi-autonomous universities in this era. It can be argued that for all its flaws, including the Anglo-American cultural and structural biases built into the notion, the ‘World-Class University’ norm has strengthened the overall social weight of higher education (though it is less clear that it benefits the great majority of higher education institutions that are not research intensive). Continually advanced by the leading research-intensive universities that benefit from it, the growth of science provides the strongest continuing mainstream argument for both the economic utility of the goods universities produce, and the public funding they receive. It is more difficult to defend the public funding per student for teaching purposes.

GEO-POLITICAL SHIFTS IN HIGHER EDUCATION

Figure 2.4 traces the pattern of national investment in R&D in seven large and important national research systems in the period 1991 to 2015. What stands out is first, the common trend to increase over time except in the UK, and second, the changing balance between the world regions. While the level of GDP share rose slowly in the United States and Germany it doubled in South Korea and multiplied by four times in China. The total investment in R&D in East Asia now exceeds that of North America – China alone is catching the United States – and is well ahead of the UK and Europe combined (NSB, 2018, table A4-12). This is a sign of China’s emergence as the largest economy and second strongest global power after the US.

There is a parallel shift in the geopolitical balance of tertiary enrolments. With the majority of the world’s population located in Asia the rapid expansion of participation in China, Indonesia and India means that it is inevitable that the majority of the world’s students and graduates – including PhD trained graduates – will also come from East Asia. In China the GER has lifted from 2 per cent to more than 40 per cent in one generation. China now has the largest student population in the world. Participation is growing rapidly also in India, pushing towards 30 per cent, though most students are enrolled in small poor quality private colleges. However, it is in research that the changing geo-political balance shows directly.

The shift in the balance of R&D investment is associated with the shift in favour of East Asia in its share of world scientific output (NSB, 2018, table A5-27). Figure 2.5 shows that while in 2003 English language science paper output in China was at one quarter of the United States level, by 2016 China had caught up with the US.

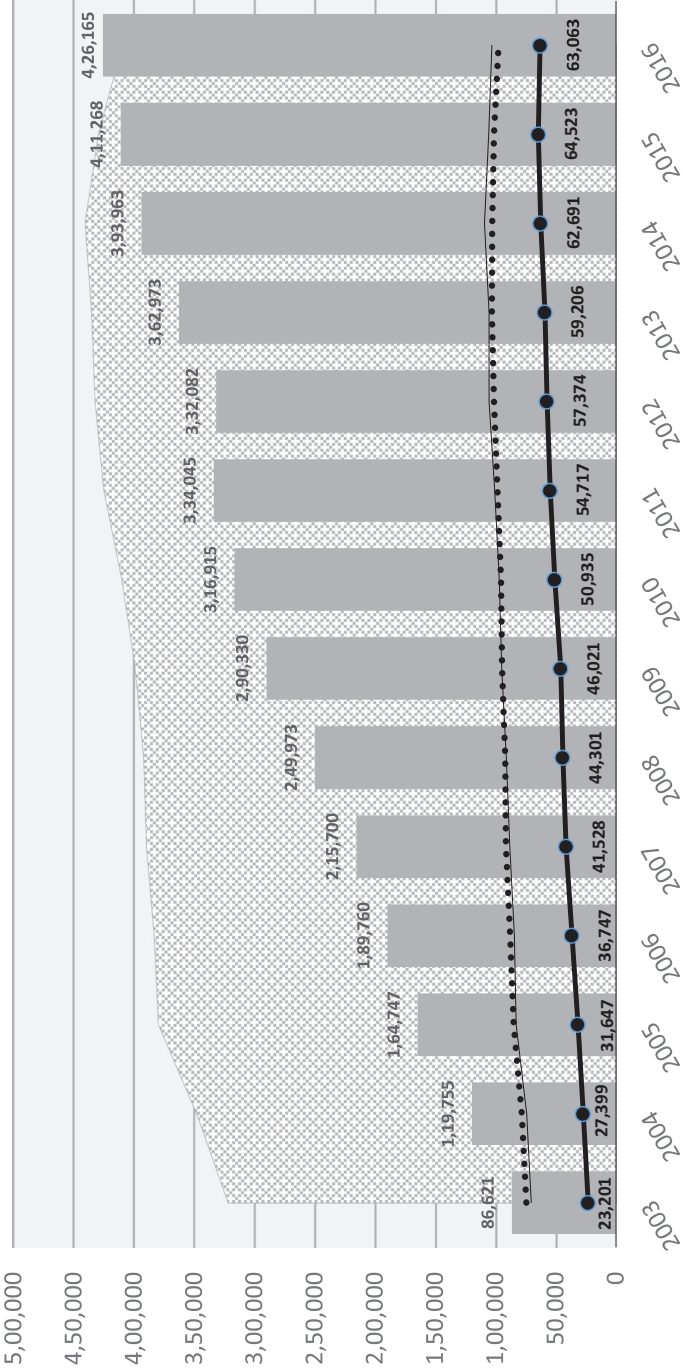


Figure 2.5. Annual number of published science papers, United States, China, Germany, United Kingdom, South Korea: 2003–2016. (Based on data from NSB, 2018, appendix table 5–27. Inclusion of papers for the most recent years 2015 and 2016 appears incomplete. It is likely in future compilations the number of papers for those years will increase for all countries)

While the quantitative expansion of East Asian science is a trend that is becoming well known, what is less well known is that the quality of East Asian science, as measured by citation rates, has also markedly improved, especially in some fields.

In China, Taiwan, Singapore, South Korea and Japan the main priorities for governmental research investment have been the physical sciences STEM disciplines: physics, chemistry, engineering, mathematics and complex computing. These fields underpin strategic national development in areas such as communications systems, transport, urbanization and advanced manufacturing. Research in these fields also feeds into cyber-security and military requirements. In these disciplines, the top East Asian universities in China and Singapore are now performing not just at European levels but at American levels.

Table 2.2 lists the strongest universities in the production of leading research papers published in the 2012–2015 period, papers positioned in the top 10 per cent of their field of study by citation rate, in the physical sciences STEM disciplines. China

Table 2.2. Leading universities in (1) Physical Sciences and Engineering and (2) Mathematics and Complex Computing, based on published papers in the top 10 per cent of their field by citation rate: 2012–2015 papers

<i>University</i>	<i>System</i>	<i>Top 10% papers in Physical Sciences & Engin.</i>	<i>University</i>	<i>System</i>	<i>Top 10% papers in Maths & Complex Comput.</i>
1 UC Berkeley	USA	1176	1 Tsinghua U	CHINA	367
2 Massachusetts IT	USA	1175	2 Nanyang TU	SING.	259
3 Tsinghua U	CHINA	1054	3 Zhejiang U	CHINA	256
4 Stanford U	USA	976	4 Huazhong USA	CHINA	250
5 Nanyang TU	SING.	931	5 Massachusetts IT	USA	245
6 Harvard U	USA	875	6 Harbin IT	CHINA	236
7 Zhejiang U	CHINA	857	7 NU Singapore	SING.	226
8 U Cambridge	UK	801	8 Stanford U	USA	208
9 NU Singapore	SING.	749	9 Xidian U	CHINA	205
10 U S & T	CHINA	720	10 Shanghai Jiao T U	CHINA	196
11 ETH Zurich	SWITZ.	678	11 City U Hong Kong	HK SAR	188
12 U Tokyo	JAPAN	649	12 U Texas, Austin	USA	187
13 Shanghai JT U	CHINA	638	13 South East U	CHINA	184
14 Peking U	CHINA	636	14 UC Berkeley	USA	184
15 Caltech	USA	635	15 Beihang U	CHINA	177

Source: Leiden University (2018) data

had more than half of the world's top 15 universities in research on Mathematics and Complex Computing. Tsinghua was well ahead of all others, with Singapore's Nanyang in fifth place. In the larger Physical Sciences and Engineering cluster, Berkeley and MIT are one and two but China had five of the top 15 universities, the same as the United States. Note that the two Singapore universities were each in the top 15 in both discipline clusters; and when the two columns are added up, Tsinghua just shades MIT as the world's leading university in the production of top 10 per cent papers in the physical sciences, engineering, mathematics and computing.

The rise of China in the physical sciences STEM cluster concerns some in the United States, but there has been no decline in the quality of US research in these fields. Rather there has been an expansion and pluralisation of global capacity; and because research is inherently collaborative (a large number of joint US-China papers are produced each year), everyone gains from the entry of new talent into the global science system. What is surprising is that it has happened so quickly.

Here the East Asian miracle should be kept in perspective. Regional universities in China and the other East Asian countries are weaker in biological and life sciences than in the physical sciences/engineering, and much weaker in medicine, psychology and the social sciences. The humanities are also comparatively neglected. From the viewpoint of the Kantian or Humboldtian university, the achievement is unbalanced.

GLOBAL/NATIONAL TENSIONS AND SOCIAL INEQUALITY

It is evident from the above data that the rise and spread of science and higher education have a profound social, economic and political momentum. Yet the growth of participation and research activity are taking place amid an increasingly difficult set of conditions, especially in Europe and English-speaking countries, conditions not generated by universities and colleges but in which they have become implicated. These conditions cross and are partly shaped by the global/national boundary.

First, while economic globalisation has been associated with the process of worldwide modernisation, narrowing the gaps between countries (Milanovic, 2011), in the context of neoliberal deregulation and low tax policies designed to attract mobile capital to national economies, economic globalisation has become increasingly regressive in its economic effects within countries. At the same time the momentum of economic globalisation has faltered. Perhaps it has diminishing returns in a nation-bound world, except in countries expanding their share of global economic activity. For these reasons together, the World Trade Organisation (WTO) policy form of economic globalisation has lost some support, and generated growing resistance in North America and Europe – though not in emerging Asia where growth rates are high and the expansion of the middle class compensates for the tendency of economic globalisation and national deregulation to foster greater inequalities.

Second, in many countries, in some political quarters, the economic tensions on the global/national boundary have been translated into opposition to all forms of globalisation, including people mobility and cultural globalisation. The resulting

global/national tension in turn significantly affects higher education and research. Indeed, as with economic inequality, higher education (especially the research-intensive universities which are highly globalised) becomes seen as a causal factor, as a source of global pressures and tensions that is fostering globalised elites.

The present era of communicative globalisation dates from the beginning of the 1990s. The advent of the Internet facilitated the spread of networked activity in real time in production, trade, finance, science and many other spheres. For a time, economic globalisation and cultural globalisation – the spread of world markets and of networked communications and homogeneous products and practices, supported by growing people movement – seem to all move together. But a split has now developed between trends in the economic sphere and in the cultural sphere.

Global integration in communication and culture continues to roll out, as does the world system of academic knowledge in research. Though this tends to suppress national-cultural differences and marginalise work in languages other than English, it must be said that those substantial problems have not retarded the globalisation of knowledge. Rather, there has emerged an uneasy coexistence between on one hand the increasingly global sciences, on the other hand the more nation-centred (and under-funded) humanities plus some social sciences and professional disciplines.

However, economic globalisation has run into difficulties. Two features of 1990s globalisation, the growing weight of multinationals and the formation of world markets in a liberal trading environment, have faltered. This predates the Trump presidency, dating rather from the recession in the Atlantic countries in 2008–2010. In January 2017 *The Economist* published an article on ‘The retreat of the global company’. Between 2012 and 2017 multinational profits declined by 25 per cent. Returns to capital were at the lowest level since the 1990s. More sophisticated local firms, drawing on production, management and marketing techniques pioneered by multinationals, had narrowed the efficiency gap and were better at nuancing products for local tastes. Of the 500 largest firms, in eight out of ten industry sectors multinationals were expanding sales more slowly than domestic peers. In six sectors multinationals had lower returns to equity. Multinationals had little more to gain from tax breaks. Offshore relocation and long cross-border supply chains were vulnerable to political intervention by national governments. The share of exports accounted for by cross-border supply chains was no longer increasing and flows of foreign direct investment had declined sharply since the recession. *The Economist* found that among listed firms the share of global profits going to multinationals had fallen from 35 to 30 per cent since 2007 (*The Economist*, 2017).

Rodrick (2017, p. 27) finds that when the deregulation of trade approaches its limit, ‘the ratio of political/distributive costs to economic gains is particularly unfavourable’. The efficiency gains with each reduction are progressively smaller, and the number of losers created by liberalisation increases, for example workers displaced by the offshoring of production, workers whose wages are reduced under pressure of foreign competition. This in turn exacerbates the tendency to growing income inequality that has been typical of nearly all OECD countries since the 1980s.

In the United States in 2010, the top 1 per cent of income receivers took in 20 per cent of all income, the same share as the bottom 50 per cent. In Europe the top 1 per cent received 10 per cent of all income and the bottom 50 per cent received 25 per cent of income. Fostered by the deregulation of wages in the workplace, the boom in managerial salaries, the declining returns to low wage jobs and tax reforms favouring the wealthy, income inequality in the US is now at the highest level on record, though inequality of wealth has not yet return to nineteenth century levels (Piketty, 2014; Saez, 2013). In contrast, in Nordic countries and some other parts of Europe, social protections, wage setting and tax policy all act together to cushion the tendencies to inequality in free trade and other market transactions. ‘Flat’ and well resourced, inclusive higher education systems help to sustain the social consensus on equality (Marginson, 2018b), though by themselves cannot secure greater income equality. Everywhere global financial and trading economies tend to inequality; and a new wave of automation now threatens to further hollow out the middle class.

Together these tendencies mean that some capitalists and many workers, especially in the United States with its weak social protections and high private cost of health care, no longer support high economic globalisation in the 1990s form of free and open exchange. While for many people in higher education it may seem that globalisation is heading in the right direction –continuing momentum for cultural globalisation is now coupled with a check to the neoliberal enthusiasm for economic deregulation with its ever-growing inequality –it is not so simple. The wavering of world economic integration has facilitated nation-bound state agendas and the rise of nativism in the popular arena, weakened the pooling of sovereignty and the modest trends to regional and global governance of the 1990s/2000s and contributed to the fracturing of a sense of common global interest (combined action on climate change is now more elusive), and spilled over into resistance to all other forms of closer global integration, demographic and cultural as well as economic. Perhaps this shows that in building a sense of common interest, the world relied too much on capitalist economies and in Europe a combined currency and not enough on political processes, but that is the world that the present generation has inherited.

Global interest and nation-bound interest do not always coincide. Across North America and most of Europe significant part of both national elites and electorates no longer have a stake in international openness and cooperation. This has facilitated the politics of anti-migration, which has become the primary springboard for the rise of the populist-nativist political right. People mobility in all forms, especially long-term migration, is on the fault-line between national and global. This fault-line is always problematic because there is an unresolvable tension between the right to cross-border mobility, to go anywhere, and the right to national border control. In Europe this tension is exacerbated by a Middle East in flames and regional conflict, environmental collapse and the absence or break-down of viable state structures in parts of Africa, and by urban terrorism and the politics of security. The United States has a long border with a Mexico in which the state is failing, poverty seems endemic and much of the north of the country is wracked by drug violence.

What are the specific implications for the positioning of higher education? There are two. First, higher education is seen to be implicated – and especially in high inequality countries, is actually implicated – in the growing income inequality. Second, higher education, positioned as a cosmopolitan anti-nativist sector, is under growing suspicion while also being increasingly retarded by anti-migration policies.

On the first point, higher education is itself partly to blame for the perception that it ‘causes’ social inequality. Not only do both policy and universities celebrate the maximisation of graduate returns (and hence the maximisation of the gap with non-graduates), most people see higher education as responsible for graduate outcomes and this inexorably this includes both the inequalities between different graduates and those between graduates and non graduates. By embracing the human capital myth, which has been a prime rationale for public and private investment in higher education, the sector has actively propagated the notion that it determines not only opportunity but employability and salary levels. Performance measures like the UK Teaching Excellence Framework, which ranks universities on the basis of graduate returns, lock higher education closer to those expectations. Yet higher education is only one part of the cluster of influences on incomes and not the most important. Social research places growing emphasis on family background as a determinant of graduate outcomes (Belfield et al., 2017); and as Piketty (2014) notes, both wage determination and tax policy outweigh human capital investment.

The advance of massification ought to dispel the notion that higher education is necessarily an elite forming sector –when half the population is enrolled in higher education they are scarcely heading for membership of the top 1 per cent of income earners that are the main beneficiaries of this political economy – but the myth dies hard. One reason is that it remains partly true for the upper echelons of higher education systems, especially in countries where incomes are especially stratified, matching the vertical hierarchy of higher education institutions. Higher education, or part of it, is most culpable in inequality where graduates from socially exclusive top universities are able to gain substantial traction simply from the institutional brand.

On the second point, there have always been issues in higher education at the global/national border. One example is that many national systems are closed or partly closed to foreign academic appointments, particularly permanent positions. Countries in Europe vary markedly in their degree of openness and closure to merit-based mobility. But global/national problems are now multiplying as nations become more restrictive of visas for short-term visitors, students and work-based migrants.

Donald Trump’s ban on entrants from part of North Africa and the Middle East is one example. Another is UK international student policy (HEC, 2018). In commercialising international education the UK created a major export industry, one that also provides for global mobility and generates other public good benefits through diverse engagement in more multicultural universities. However, migration resistance in the UK electorate forced the government to promise a major reduction in net migration. This was difficult to achieve. International students are temporary rather than permanent migrants, but are included in the net migration count, and the

Prime Minister left them in the count because they are the easiest category to cut. In 2016 the government promised a 30–40 per cent reduction in non-EU international student numbers. While the reduction was not implemented, visa policy has been managed so as to hold constant or slightly reduce non-EU student, both reducing demand from South Asian families and breaking the education/work nexus in disciplines where internship or work experience are required. The UK government's lack of support for international education is costly in terms of UK export earnings, illustrating the point that in this era nativism and migration resistance can be stronger political forces than standard economic rationales. Though the UK is losing export market share, and sooner or later that will trigger a change in the government's position, as of mid 2018 there is little evident support in the political mainstream for the lifting of the curbs on international education.

Note that these two positioning effects can be combined. Higher education can become seen as both the handmaiden of inequality, the tool of the elite; and as a Pandora's Box of invasive foreigners and alien influences. The danger for higher education, of all kinds, elite and non-elite (but especially for the global research universities) is that it becomes positioned as a socially elite and cosmopolitan globalist sector that is necessarily ranged against egalitarian native identity. And in the rise of populist politics of the alt-right Trump-Brexit kind, this has happened.

NATIVIST-POPULISM AND HIGHER EDUCATION

Amid conditions of fragmented globalisation and growing inequality the new politics emerged, the nativist-populist politics of the Brexit campaign, Donald Trump and Marine Le Pen, and Hungary, Italy, Austria, Netherlands, parts of Germany and so on. The rise of nativist right-wing populism is not a bizarre aberration. It connects to the deep-seated global/national tensions and (especially) the tensions generated by inequality and frustrated economic and social aspirations. Nations, economies and education promise. Yet wealth and even opportunities seem increasingly confined.

The new politics raises many concerns. One is the funding of national electoral campaigns by off-shore corporations with deep pockets, and cyber-intervention by foreign governments. Another is the subversion of democracy by data mining companies that use the store of data on each person's likes, desires and fears, and social media techniques for individualising messages, so that voter can be manipulated by pressing exactly the right emotional buttons. More generally, there is the increasing preponderance on both political Right and political Left of sectional identity politics and the weakening of a sense of the common interest. But for higher education the new nativist-populist politics has posed two more direct challenges.

One challenge is the positioning, in both the 2016 Brexit campaign and the 2016 US presidential election, of higher education exactly as suggested above – as a socially elite and cosmopolitan globalist sector that is necessarily ranged against egalitarian native identity. This threatens to undermine the democratic mission of the sector and could even set in train a halt to the growth of aspirations, the motor of expansion.

The other challenge is the attacks on science and expert judgment, and the degrading of public discourse itself, which threatens to undermine the Enlightenment ideal that is foundational to the contemporary university and especially to its public role.

Here the problem for higher education is not solely reducible to political rhetoric or communication strategy. More fundamentally, it lies also in the binary character of the education/non-education distinction, which was a political problem that was waiting to be exploited. This problem, not anticipated by Martin Trow, is inherent in expansion itself. Paradoxically, education/non-education distinction becomes more rather than less pejorative as participation advances. As higher education expands the line between participation and non-participation (which as noted is also a line between mobile cosmopolitan agency and bounded agency) becomes increasingly regressive for those who are non-participants. Those without a degree are worse off in a society in which 60 per cent have tertiary qualifications than a society in which only 20 per cent are qualified and a degree is not yet indispensable for full social status. Why then should today's non-graduates love higher education? In their private domains the common public benefits are not very apparent, while at the same time they are excluded from many of the jobs on offer, and from social status itself. Politicians like Trump who debunk higher education, degrees and knowledge find willing listeners. So did the Brexit campaigners and so does Orban in Hungary.

In the Presidential election, the best predictors of how people would vote were not income or class, they were ethnicity ('race'), whether they lived in large cities, in which case they voted for Clinton; or in small towns and rural areas, in which case they voted for Trump, and educational level – whether or not they attended college (Silver, 2016). Trump openly celebrated the 'uneducated' in his campaign. Likewise in the case of Brexit. The predictors of voting behaviour were first, whether people lived in large cities, where the clear majority voted for the EU, or small towns and rural areas, which mostly supported Brexit; and second, whether they had degrees. These factors are related. Like global connections, degree holders tend to concentrate in cities and are comfortable with migrants and mobility. In the UK, 26 per cent of degree holders supported Brexit, but 78 per cent of people without qualifications. Young people, the most educated generation in UK history, more at ease with migration and multiple identities than any predecessor generation, voted overwhelmingly to remain. The least educated and least cosmopolitan age cohort, those aged over 65 years, voted in massive numbers to leave (Swales, 2016, p. 8).

Trump's attacks on climate science and on the conduct of political discussion at Berkeley and other public universities are signs of a broader hostility to the sector. However, the deepest challenge lies in the transformative effects of the particular form of nativist populism that has evolved, the effects of the reality show discourse in negating public rationality with its the notion of open debate grounded in reason and evidence that provides university-based expertise with its forms of public action. As John Harris remarks in *The Guardian*, here Trump builds on the fact that the United States has experienced forty years of relentless inequality. With the faltering of the meritocratic dream in a highly unequal society, in which university-based

culture and science, like well-paid secure employment, appear increasingly beyond the reach of many, expectations are low. Reality television outshines the Kantian public ideal.

‘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. And if everything is a circus, who cares about the bread? . . . 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 . . . 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, 2017)

This underlines the importance of the universities as a public sphere in the sense discussed by Calhoun (1992) and Pusser (2006) – not only as the source of new knowledge but as stewards of the conditions of the Enlightenment rationality itself.

CONCLUSION

Higher education and science are growing on a worldwide basis with unprecedented momentum. This is uplifting individual and collective capabilities, immersed in complex knowledges, on a major scale. This will transform future society. These tendencies are near universal and a great strength of this period is that advanced education is no longer largely confined to Europe, North America and Japan. Educated capability and evidence-based science are spreading to a large number of middle income countries, from Eastern Europe and Latin America to parts of the Middle East/North Africa and Central Asia, and much of East and South East Asia. The lurch into nativist populism, with its unanticipated potentials to destabilise the popular enthusiasm for higher education and foster scepticism about science and truth-based public discourse is more localised to North America and Europe but given the continuing importance of those countries, in politics and culture as well as economics, the new mood has larger than regional effects.

Arguably, the key problem, corroding both democratic politics and the role of higher education, is the acceleration of economic inequality with no end in sight. Economic inequality also generates political inequality and subordination. Plutocratic control of the economy has been translated into the money control of Congress in the US (Stiglitz, 2013; Mettler, 2014) and the financing of the manipulated Brexit vote. Equally, money power has the capacity to reposition the universities; and their elite cultural claim leaves them always vulnerable – unless their openness, their egalitarian mission, is self-evident. Here the vulnerability of higher education and

science varies by country. That egalitarian mission is self-evident in the Nordic countries, but less so in France and the Anglo-American world.

How could record levels of inequality in the US and increasingly in the UK not have a profound political effect, catching universities and science in the net? A large layer of people has been excluded from the possibility of individual or family betterment. The call to aspirations has diminishing returns. Scapegoating is inevitable. In the manner of nativist politics, in which all questions at bottom are reduced to the us/them framing of identity that sustains the populist coalition and becomes an end in itself, the explanatory narratives have no necessary relation to reality. But it is rampant economic and social inequality that ultimately sustains nativist populism and anti-migration politics and threatens to position higher education, especially research universities, on the wrong side of history.

How then does higher education find itself on the right side? There is much at stake. The institutional guarantors of public rationality are the liberal media and the large multi-disciplinary universities, that harbour both specialised and generic public intellectuals. With the media positioned and self-positioned as just another body of opinion (fake news) more than a reputable source of evidence-based truth, and often placed on the defensive, it falls to knowledge-intensive science and to the pluralist universities, with their long commitment to Kantian rationality, to take forward and make real the high democratic mission that is implied in their growing social role.

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