
WILL HIGHER EDUCATION BE THE NEXT BUBBLE TO BURST?

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This essay was first published in The Europa World of Learning 2011.
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INTRODUCTION

Higher education systems are networks of able, intelligent and creative people with the ability to think critically, so it is not surprising that they interpret what they do in many different ways. Sometimes the narrative is of a disinterested pursuit and dissemination of truth; sometimes it is completing the task of preparing each generation for the society they inherit; sometimes the story is of the maintenance of viable social and political order; and at other times to act as licensed critics of that order. More recently, higher education has come to be seen as investment in human capital, the main source of scientific and technological change. No matter what interpretation we choose to accept, though, there can be no doubt that higher education institutions of the 21st century are global businesses. They are global because their networks cover the whole world, in their student and staff recruitment, their graduate destinations, and their research sponsors; furthermore, their raw material, knowledge, like money, can be flashed across the globe in an instant. They are businesses because the wide spread of university autonomy, financial as well as academic and legal, has resulted in competition for recognition in the global market-place.

Global reach entails global competition; Pakistani graduates compete with those from Brazilian universities for jobs in international companies. Fundamental research from Massachusetts Institute of Technology (MIT) may be used to develop products or processes that can generate income in the growing economy of the People's Republic of China, provided that China has graduates who are able to exploit them. It is not surprising if both the original researchers and those who paid for the research assert their intellectual property rights to ensure that they receive some of the financial benefits that flow from their work anywhere in the world.

Global higher education could, in principle, be closely regulated nationally and internationally. All higher education systems have an element of regulation, from the well-known California master plan that has underpinned the development of higher education in that state since the early 1960s, to the traditionally closely regulated systems of France and Japan. The worldwide interest in the Bologna-inspired qualification frameworks is one example of evolving worldwide coordination arrangements. At the same time, the emergence of mass higher education, and the inevitable diversification that accompanies it, has resulted in a shift towards national systems in which individual higher education institutions have a great deal of financial as well as academic freedom. Almost inevitably, universities have competed for students and research grants and over the past two decades many of them have been very successful in doing so. They have also been

encouraged by governments to offer other knowledge-based services and have extended their interests to cover a wide range of knowledge-related 'third mission' activities.

However, business expansion is rarely boundless or continuous. Throughout their long history, universities have grown in fits and starts. While the long-term trend has certainly been upwards, there have been many periods of stagnation. While Clark Kerr's famous aphorism held that the university is one of the very few European institutions to have survived since medieval times, it is much less remarked that many individual higher education institutions have ceased to exist over the period and those that have survived are very different institutions from those of earlier centuries. All are in a continual state of evolution, sometimes painful, as a result of economic, social or political pressures. In brief, markets are not a unique threat and 21st-century universities are likely to have as chequered a history as their predecessors.

A CENTURY OF EXPANSION

Higher education grew massively in most countries throughout the 20th century, though growth was uneven, at different rates in different countries. Like the economy, it grew in fits and starts, sometimes extremely rapidly and sometimes stagnating for several years. Though the timing was not the same in all countries, in general, rapid growth in the 1920s was followed by a decade of stagnation in the 1930s. Growth resumed after the Second World War and accelerated in the 1960s and early 1970s. Then there was a decade and a half of stagnation in the late 1970s and 1980s, followed by more fast growth in the 1990s and the early years of the present century.

Organisation for Economic Co-operation and Development (OECD) figures show that in most of the world's wealthy countries the percentage of the population undertaking higher education has grown by 20% in the present century and the percentage of the adult population with higher education has grown correspondingly (see Tables 1–3). In many developing countries and emerging economies the growth has been even faster. In China, for example, about 10% of school leavers undertook higher education in 1996; now it is about one-quarter of the population.

China has seen an unprecedented expansion in its higher education (HE) sector in the last decade. Total enrolment, for instance, reached 7.3m. in 2006, 3.5 times higher than in 1997. By 2006, total enrolment at China's HE institutions had risen to as high as 25m. with the gross enrolment rate reaching 22% compared with only 3.4% in 1990. (Wu and Zheng, 2008: 1)

This growth continued at least until 2009:

With more than 27m. students, China's current higher education system is the largest in the world. Some 24% of all 18–22 year olds [are] now in a tertiary institution, and hundreds of new universities have been established over the past decade. (Douglass, 2010: 20)

In India, too, there has been massive expansion:

With more than 400 universities and over 20,000 colleges, student enrolment in India crossed 12.9m. in 2007–08, clocking a compounded annual growth rate of 6.2% since 1985–86. (University World News, 2009)

TABLE 1 PERCENTAGE OF YOUNG PEOPLE AGED 20–29 YEARS IN EDUCATION

Average of:	2000	2005	2007
OECD			
Age 20–24	35.3	40.6	41.0
Age 25–29	12.4	14.1	14.0
EU			
Age 20–24	36.5	41.9	42.2
Age 25–29	11.7	13.5	13.6
USA			
Age 20–24	32.5	36.1	35.7
Age 25–29	11.4	11.9	12.4

SOURCE: EAG 2010, TABLE C3.4A

TABLE 2 ENTRY RATES TO TERTIARY EDUCATION

Average of:	2000	2005	2007
OECD	47	55	56
EU	46	53	55
USA	43	64	65
Australia	59	82	86
Germany	30	36	34
Japan	40	44	46
Netherlands	53	59	60
Poland	65	76	78
Sweden	67	76	73
United Kingdom	47	51	55

SOURCE: EAG 2010, TABLE A2.5

TABLE 3 PERCENTAGES OF POPULATION (AGED 25–64 YEARS) WITH TERTIARY EDUCATION

Average of:	2000	2005	2007
OECD	21	26	27
EU	19	24	24
USA	36	39	40
Australia	27	32	34
Germany	23	25	24
Japan	34	40	41
Netherlands	23	30	31
Poland	11	17	19
Sweden	30	30	31
United Kingdom	26	30	32

SOURCE: EAG 2010, TABLE A1.3A

The early years of the 21st century were boom years for higher education in most countries. Nearly all the key indicators showed expansion and improvement across the world. Much of the high-level rhetoric is that the growth will continue for some time to come:

Tertiary attainment levels have increased substantially in OECD countries. On average, one-third of 25- to 34-year-olds have concluded tertiary education, up from less than 20% 15 years ago.

And if we look at entry rates, they continue to increase, suggesting that the upward trend will continue. (Gurría, 2009)

In emerging economies the growth has been even more spectacular:

In the 1960s, 70s and 80s the higher education agenda in Asia's early developers—Japan, South Korea and Taiwan—was first and foremost to increase the fraction of their populations provided with postsecondary education. Their initial focus was on expanding the number of institutions and their enrolments, and impressive results were achieved. Today, the later and much larger developing nations of Asia—China and India—have an even more ambitious agenda. Both these emerging powers seek to expand the capacity of their systems of higher education, and China has done so dramatically since 1998.[...] China in particular has the will and resources that make it feasible. This aspiration is shared not only by other nations in Asia but also by certain resource-rich nations in the Middle East.

In the Gulf States, hundreds of millions of dollars are being spent to open branches of top US and European universities such as Cornell in Qatar and the Sorbonne in Abu Dhabi.

This past autumn, the new King Abdullah University of Science and Technology opened in Saudi Arabia. Its US\$10,000m. endowment exceeds that of all but five American universities.

In India, the Education Ministry recently announced its intention to build 14 new comprehensive universities of 'world-class' stature. (Levin, 2010: 3)

As a minor indicator of the global expansion, the number of institutions included in *The Europa World of Learning* rose from about 8,500 in 1985, to 21,000 in 2000, and to 28,000 in 2010.

'Is it possible that higher education might be the next bubble to burst?' asked Joseph Cronin and Howard Horton in an article in the *US Chronicle of Higher Education* in May 2009. Their concern was with the rapidly rising fees that US private universities charged during the first decade of the century, and they produced evidence to show that these increases were unsustainable. However, there are reasons for wider doubts about whether the unbroken expansion of higher education worldwide can be expected to continue indefinitely, and some indications suggest that even in the shorter term some checks, normal in any business sector, may be anticipated.

ARE THERE NATURAL LIMITS TO GROWTH IN ENROLMENT?

Most OECD countries have now achieved what Martin Trow called mass higher education, and it is being rapidly approached in many other parts of the world. At some stage, everyone who is able or who wishes to take advantage of higher education opportunities will be able to do so. It is not easy to assess the limit. Universities are proving able to adapt to the needs and interests of a wide range of different students, and there is good reason to believe that in rapidly changing societies and economies, lifelong learning will encourage people to undertake higher education episodes throughout most of their lives. However, there is some empirical evidence to suggest that when about one-half of each generation obtains higher education there may be resistance to much more growth in enrolment. For example, according to OECD figures, there has been little growth in enrolment ratios in recent years for some of the early achievers of mass higher education, such as Japan, the Nordic countries and the USA. More generally, the slowdown in growth of participation by young males inspires some questions about the economic benefits to them. In all OECD countries except Japan, the Republic of Korea and Turkey, female participation in higher education now exceeds that of males, often by a considerable margin. This gap has appeared and increased annually over the past two decades; it seems to have occurred as countries approached mass higher education. Do many young

men now believe that there are no longer net benefits to be gained from higher education? It is a much under-researched phenomenon.

However, even if there is an ultimate limit on expansion, it is unlikely to show itself in the form of a bursting bubble. Rather, expansion will slow down and the relatively low growth rates in male participation in several OECD countries during the past decade may be a portent of this.

Of more concern is that very high rates of growth result in rapidly increasing numbers of graduates trying to find jobs in economies that are unable to offer them in the short term the kind of employment for which they were hoping. Something like the hog cycle (a cyclical fluctuation in supply and price, typically in the livestock market) caused by lags in production decisions and the resulting output, well known to economists, is one suggested possibility (see Harlow, 1960; Rosen et al., 1994). The basis of the model is straightforward: at a particular point in time potential students observe that the earnings and other rewards of those with particular high-level qualifications are very good. This encourages more of them to seek qualifications in that subject area, but it takes some years for them to obtain the qualification. When they graduate and seek to enter the labour market, they find that many other people have taken the same decision and there is an over-supply of graduates with those skills, so their earnings fall relative to those in other occupations. The number of students electing to study those subjects correspondingly falls and fewer people study that subject, with a corresponding rise in starting salaries a few years later. The cycle then repeats.

Of course, there are many differences between hogs and graduates. The gestation period is much longer, so the cycle is lengthier for graduates. Not all students enter higher education with a job in mind and even those who do embrace a very wide range of skills. It is unlikely that the labour market in all sectors will be flooded at the same time. Furthermore, movements in relative earnings are much more sluggish than meat prices, so cycles are likely to be much less easily identifiable. However, the rapid expansion of higher education in many countries in the late 1920s, and in the 1960s and early 1970s, was followed by a decade or more of stagnant demand and much slower growth in the 1930s and 1980s. There is reason to believe that in both cases this was at least partly due to a perception that the economic value of a degree was less enticing (Freeman, 1975a; Williams, 1985).

More relevant to the 21st century, there are hints that the hugely increased output of graduates in China is finding it difficult to find suitable employment:

Ministry of Education statistics indicate more than 6m. students will graduate in China this year whereas in 2002, the total number comprised only 1.45m.. But the employment rate for graduates last year was less than 70% and the rising number seeking jobs is challenging the government at a time when the current economic crisis will surely exacerbate the problem. It is likely close to 2m. graduates will not find work—many of whom are postgraduates, even doctoral graduates. (Zhou and Lin, 2009: 3)

There are indications of similar problems in Indonesia:

The most recent figures released by the manpower ministry show some 1.15m. unemployed graduates nationwide. The national education ministry's pro-active director-general for higher education Fasli Jalal believes too many graduates emerge without marketable skills. (Jardine, 2009)

However, while over-expansion of higher education in general remains a remote possibility, there are certain features of 21st-century expansion that should give cause for concern. Four in particular need to be watched carefully: rapid growth of private universities; the growth of university expansion across international borders; rapid growth of some subject areas not matched by market demand for their graduates; and concerns about quality.

PRIVATE UNIVERSITIES

In an important recent book on global private higher education, Altbach and Levy claimed that:

[...] in the last quarter of the 20th century [...] private higher education has suddenly become the fastest growing segment of higher education worldwide—expanding rapidly in almost all parts of the world. (Altbach and Levy, 2005: 1)

The private higher education sector is expanding most rapidly in Latin America and Asia, with Africa growing slowly but steadily. In countries dominated by public higher enrolments just a decade ago a third or more of their students now attend private institutions. These include several Latin American nations such as Mexico and Chile. Brazil has had a majority of its students in private institutions for a half-century. Indonesia now educates about half its students at private institutions, and Malaysia also has a large private sector. [...] Since the 1990s China has built up a large private sector. (Altbach and Levy, 2005: 3)

Rapid expansion of this sector has continued. Indonesia, for example, now has 2,700 private institutions that call themselves universities. In Russia, where there were effectively no private universities in 1990, there are now about 450 private universities and 650 public institutions. In Poland in 1990 there were 112 higher education institutions, nearly all public, while in 2010 there were the same number of public universities, but they had been supplemented by 195 private institutions.

According to Altbach and Levy:

The financial arrangements of private higher education institutions often lack transparency. The for-profit sector growing in many countries is perhaps easiest to understand since, in many countries these institutions operate as corporate entities. [...] A significant proportion of private higher education initiatives in most countries are at least in part focused on earning money for the owners or operators of the institutions. Specific financial strategies may be hidden from government and the public. Family run private universities in some cases are created as profit-making business operations. While no accurate statistics exist concerning the number or proportion of private higher education institutions that seek to earn a profit for owners, families or management groups, it is likely that a large majority of the newer generation of institutions everywhere fall into these categories. (Altbach and Levy, 2005: 5)

This is what makes much of this growth vulnerable to cyclical ups and downs. Even more than market-driven public sector and non-profit higher education generally, private universities established as commercial enterprises are exposed to the vagaries of the market. The private sector may still be relatively small compared with the great majority of students in public higher education in most countries, but governments in more and more countries are beginning to believe that financially autonomous universities acting like commercial enterprises are less of a burden to public funds. Thus, they are more likely to be in direct competition with private universities and to alter their actions accordingly.

CROSS-BORDER HIGHER EDUCATION

In addition, much of the huge expansion of international education in recent years has been commercially provided. It can take several forms. The longest established is the recruitment of full-cost fee-paying students in universities outside their home country. Whereas 600,000 students went abroad to study for their degrees in 1975, by 2000 the number was 1.8m., in 2005 it reached 2.7m. and in 2007 it was over 3m. (EAG, 2010). In 2007:

International students make up 10% or more of the enrolments in tertiary education in Australia, Austria, New Zealand, Switzerland and the United Kingdom. International students make up more than 20% of enrolments in advanced research programmes in Australia, Belgium, Canada, New Zealand, Switzerland, the United Kingdom and the United States. (EAG, 2010: 309)

International students paying fees boost the resources available, but make the universities vulnerable to political and exchange rate fluctuations, as well as shifts in consumer demand.

There are also longer-term dangers for universities that come to rely on international students as a major source of income. As the OECD figures suggest, much of the flow of international students is from developing countries and emerging economies to universities of wealthier Western countries. However, one of the main reasons why these countries are encouraging study abroad is to build up their own higher education systems. As has been suggested, China is well on the way to self-sufficiency, as is India: two countries that account for a large proportion of the recent upsurge in study in Western universities. Of course, advanced higher education systems do experience many staff and student exchanges, but not on the one-way commercial basis that is typical of most internationalization programmes today. The shift from Western-based to a more globally spread pattern of higher education will not be achieved without considerable stresses and jolts, as has been the case for the manufacturing industry, which moved in a similar direction during the past half century.

Another dimension of internationalization threatens even more turbulence. According to the Observatory on Borderless Higher Education (OBHE), the number of universities across the world establishing branch campuses in other countries is growing rapidly. The number has almost doubled to 162 in 2007–2010 alone, and has jumped eight-fold since 2002. Higher education institutions from 22 countries have now established branch campuses abroad, compared with institutions from 17 countries in 2006. Most of these campuses (111 out of 162) were created by institutions in the Anglophone nations, with the USA continuing to overshadow all others with its 78 offshore bases accounting for 48% of the total (Becker, 2009). In the Arabian Gulf states, hundreds of millions of US dollars are being spent to open branches of US and European universities, some of them leading universities such as Cornell in Qatar and the Sorbonne in Abu Dhabi (Levin, 2010). While a variety of reasons is put forward for these ventures (the words ‘cultural imperialism’ are used by opponents), there can be little doubt that the primary motivation is commercial.

From the Amsterdam tulip mania in 1624, to the dot-com madness in the late 1990s and the credit crunch of 2008, over-rapid expansion in many commercial ventures has been followed by at least a temporary crash. The OBHE report showed that five international campuses had closed by 2009. It will be surprising if others do not follow.

SUBJECTS OF STUDY

To extend the earlier metaphor of the hog cycle, and rises and falls in demand for higher education through graduate labour market shifts, a closer analogy is with particular subjects of study in higher education. Just as hogs are part of a much broader meat and food production industry, so higher education embraces many kinds of graduates who can be substituted for one another in the labour market to only a limited extent. Much of the press comment in many countries about graduate unemployment turns out on closer inspection to refer to particular areas of graduate employment. This is why it is often possible to read in the same report that the rates of return to higher education remain very good while some graduates are finding it hard to find suitable employment.

In the previously cited study of the Chinese graduate labour market by Zhou and Lin, the authors go on to state that:

With demands in the job market changing constantly, the tension created by the gap between the supply of graduates and the demand of employers has intensified. Consequently, too many

graduates have majored in accounting, Chinese language and literature, law and computer science, whereas jobs in these fields are limited. At the same time, many companies cannot find qualified employees working in specific technical fields. (Zhou and Lin, 2009: 3)

Such subject differences are also shown by differences in graduate earnings by subject of study. A labour force survey in the United Kingdom (UK) in 2002 showed that average earnings of new graduates in engineering were £21,000 per year, while for graduates of humanities subjects the figure was £12,600, some 67% lower (Prospects Net, 2002). In 2005/06 the average starting salaries of engineering graduates were over £23,000, while English literature graduates could expect about £17,000 (HESA, 2007). Another study found that, while the average university leaver could expect to make £160,000 more between the age of 21 and 60 than those who entered the job market with only A-levels, those with degrees in medicine had the highest earnings premium at £340,315, while engineering graduates could expect to make £243,730 more, and those with degrees in geography or history could make £51,549 more (O'Leary and Sloane, 2007).

QUALITY OF EDUCATION

There are also more general concerns about the quality of the student experience, shown often by the number of students who fail to complete their course. In the USA, about 30% of higher education enrollees fail to complete their course, but 11% of all students and over 30% of black students were enrolled in colleges or universities in which less than one-third of students graduated (Schneider, 2008). OECD figures show that in both the UK and the USA successful university course completion rates fell considerably between 2000 and 2005 (EAG, 2004; EAG, 2010).

Such indicators do not necessarily foreshadow a bursting bubble, but they do provide warnings that individuals may begin to ask questions about the likely real value to them of embarking on some courses of higher education.

HIGHER EDUCATION AND THE RECESSION

The global financial crisis of 2008/09 and the subsequent recession are having ambiguous implications for higher education. Rising graduate unemployment in some countries where expansion has been particularly rapid has already been discussed. However, graduate unemployment is also linked to the state of the world economy. There is evidence in several countries that new graduates in 2009 and 2010 found it much harder than their predecessors to find suitable first employment because of the general employment situation.

According to the College Employment Research Institute at Michigan State University:

Hiring levels for college graduates across America are at their lowest level in decades and are not expected to improve in 2010. MSU's 2009 Recruiting Trends Survey [...] found that hiring levels plummeted between 35% and 40% in 2009. (Michigan State University News, 2010)

There are similar reports from several European countries in relation to first-time employment of graduates. Other evidence, however, shows that unemployment of graduates remains lower than among less skilled workers, so the relative advantages of higher level qualifications remain. Indeed, there are reports from several countries of postgraduate courses benefiting from graduates' belief that the best way of maintaining their positional advantage is to obtain further qualifications. It is likely that the job market for new graduates would need to remain stagnant for several more years before it had a marked effect on overall demand for higher education.

A much more serious danger for higher education institutions is the direct effect of the 2009–10 recession. It has already hit many private and other financially autonomous universities, which receive a significant proportion of their income from donations and investments.

According to a report in *University World News* in December 2009:

In Asia, Africa, North America, Europe, Britain and down under in Australia and New Zealand, universities have been hit hard as the value of their investments in property and shares and, in many cases, their income from diverse sources crumples.

Komazawa University incurred losses of 15,500m. yen or almost US \$170m. in trading high-risk derivatives. Keio University [...] accumulated 22,500m. yen (\$233m.) in unrealized losses on investments ranging from hedge funds to real estate investment trusts. [...] Waseda University, a training ground for Japanese politicians since 1882, expected a 500m. yen (\$5.4m.) loss, incurred on investments as of March, to deepen significantly.

In the USA, the University of Texas has reported losing US \$1,000m. so far on its investments and endowments in 2008. Elsewhere, Loyola University in Chicago faced losses to its endowment in early October of more than \$30m. while Dartmouth University announced it had lost \$220m..

In Britain, the first signs that universities were facing grim times came in October when reports that several universities including Cambridge [...] were potentially involved in financial crises after being blocked from accessing funds in Icelandic banks amounting to more than £1,160m. (US \$1,710m.). Cambridge revealed it had £8.5m. (US \$12.6m.) in a subsidiary of the failed Landsbanki and £2.5m. in another, although the funds represented only 3% of the university's total bank deposits. Another 11 universities, including Manchester, the Open University, Glyndwr and Manchester Metropolitan, had deposits in Icelandic banks adding up to £66m.

In Australia [...] the nation's oldest and wealthiest universities have seen the value of their properties and investments plummet. The University of Sydney revealed falls in its investments had resulted in cuts to its annual budget of 10% or some A\$150m. (US \$99m.). (Maslen, 2008)

Such figures from individual universities, however eminent, are not necessarily very significant, but they do demonstrate that higher education globally is operating in a fiercely competitive commercial world and universities cannot expect to escape from the turbulence of the rest of the economy.

Student demand is much more ambiguous. On the one hand it is clear that in some cases families' ability to pay fees has been hit, but there is little evidence of this affecting the demand for higher education as a whole. The relative economic advantages of having higher qualifications remains, though some potential students may be forced to modify their aspirations. In the USA, 'many students who had planned to attend private or out of state public colleges have turned to cheaper in-state options' (Douglass, 2010: 4). A study by Paul Axelrod of universities in Canada during the great depression of the 1930s found that:

[...] jobs, even for university graduates dried up. Many dropped out, and a significant number of those who remained in university faced severe financial challenges. At the University of Saskatchewan in 1934, the administration accepted promissory notes from one-third of its students because they were unable to pay their fees. However, notwithstanding these crises, the universities survived the Depression, diminished but intact. No institutions were closed; indeed enrolments rose by some 10% during the period. History demonstrates that in poor economic times, those able to pay the fees seek to enhance their educational credentials in anticipation of better days ahead. (Axelrod, 2010: 1)

Preliminary evidence suggests that this is happening now. There are many reports of demand for higher education rising as a response to the general unemployment being caused by the recession. In the UK, student applications for university places rose in both 2009 and 2010, while in the USA:

Preliminary evidence [...] is that nationally the number of community college students is up approximately 11.4% in fall 2009 over fall 2008, and that many of these students are nontraditional (over the age of 24) and increasingly enrolled full-time. (Douglass, 2010: 2)

In addition:

According to a February 2010 report by the State Higher Education Officers association (SHEEO), nationally, higher education enrollment in the US grew by 3.4% from 2007–08 to 2008–09 (the beginning stage of the Great Recession), and there are signs of increased access, but with varying stories among the 50 states[...]. (Douglass, 2010: 4)

Enrolment in higher education, like their economies in general, seems to have been relatively little affected in the main Asian countries, with the exception of Japan where, as already noted, a plateau in higher education enrolment seems to have been reached.

According to Moody's (a credit rating and financial forecasting company):

As global recessionary trends persist in many nations, universities are proving to be an appealing investment for government stimulus efforts due to the sector's stabilizing, counter cyclical nature in the short-term, as well as its potential to stimulate long term economic development. (Moody's, 2009: 9)

The Moody's study also shows that in the recessionary years of 1990–92 and 2000–02 growth of higher education enrolment in major OECD countries accelerated.

Nevertheless, higher education institutions in many countries are likely to suffer very severely from the public expenditure reductions made necessary by the Keynesian deficits incurred in 2008–10 to alleviate the worst effects of the financial collapse.

The immediate effect of the financial crisis was to increase public higher education expenditure in many countries as part of the deficit-financing policies to restore economies to growth, though governments seem to have been more concerned to increase spending on university research and research-training than on increasing student participation. However, it is widely believed that as Western economies recover from the recession higher education will be one of the sectors that can expect severe cuts in public expenditure to help reverse the large deficits incurred during the financial crisis. This has already begun in some countries. Many of the states in the USA, which have their own higher education systems and tax-raising capacities, have already seen severe reductions. In the University of California, for example, the state-funded operating budget was reduced by 20% in 2009/10 compared with 2008/09. In the UK, a reduction of 9% in public funds for universities in 2010/11 has been announced, and further reductions were widely expected after the general election in May 2010. Reductions in public funding available for higher education are thought to be imminent in many other OECD countries.

CONCLUDING COMMENT

Higher education is too long-term an investment for individuals and societies, too global and too diverse, and its advocates too articulate, for a catastrophic crash of the whole sector following over-rapid expansion to be at all likely. Families and governments are likely to continue to be willing to make considerable sacrifices to ensure that new generations are able to develop their talents to the best of their ability in the long term. Research is likely to continue to be seen as one of the most powerful drivers of long-term improvements in economic and social welfare. Major universities that have survived for many generations will continue to exist. The sector will continue to expand in emerging economies such as Brazil, China, India and Indonesia. Indeed,

one way of interpreting the current turbulence in higher education in the world economy generally is that it is caused by the shifting of the tectonic plates away from Europe and North America, eastwards and southwards.

Yet, there are some booms that are likely to bust in the next few years. One, almost analogous to the sub-prime mortgages that triggered the financial crisis, is the expansion in many countries of institutions that provide qualifications of uncertain value to students whose capacity to benefit from higher education is doubtful. Although the average economic returns to higher education remain good, not all students from all types of higher education benefit. Concerns about quality of some higher education institutions are widespread. Related to this is the explosive growth of commercial private higher education. Such institutions are likely to have similar experiences to other small and medium-sized enterprises: they are exposed to the vagaries of the market and their fortunes will rise and fall. They have had, until 2009, a long run of good years. Those that do find a successful niche in an overcrowded market may find their business captured by financially stronger, newly autonomous public universities supported by public funds. The third bubble waiting to burst is internationalization. It is unrealistic to expect the number of students from India and China, in particular, to continue to grow as these countries expand and strengthen their own universities. Cross-border campuses, which in practice have much in common with commercial private higher education, are particularly vulnerable.

Universities have been under much pressure by governments and international agencies to be more entrepreneurial. Entrepreneurs are rewarded for taking risks, but not all risky ventures are successful.

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First published in *The Europa World of Learning 2011* (ISBN 978-1-85743-567-2).

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