

One-third of the globe: The future of higher education in China and India

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Abstract China and India together account for almost 25% of the world's postsecondary student population. Most of the enrolment growth in the coming several decades will be in developing countries, and China and India will contribute a significant proportion of that expansion, since China currently educates only about 20% and India 10% of the age cohort. Both countries are expanding the higher education sector, while at the same time seeking to improve its quality. Challenges of funding, educating qualified academics, and building a sustainable academic culture are significant. An emerging private higher education sector and developing masters and doctoral programmes are additional pressures. Internationalization is a key factor as well, as both countries seek to expand their global profile and develop strategies for international programmes. Also, higher education development is central to future economic growth of these two of the world's fastest growing economies.

Keywords Massification of higher education · Research universities · Internationalization

China and India, which together make up one-third of the world's population and are two of the most rapidly growing economies, are awakening to the significance of higher education for technological development and for the global knowledge economy. The economic realities of China and India's rapid growth are affecting the world, from increased demand for natural resources to their roles as exporters of products of all kinds, a pattern that will continue regardless of the current economic slowdown. A growing impact of these countries is in higher education; their higher education systems are already among the world's largest, and they are major exporters of students to other countries. This trend

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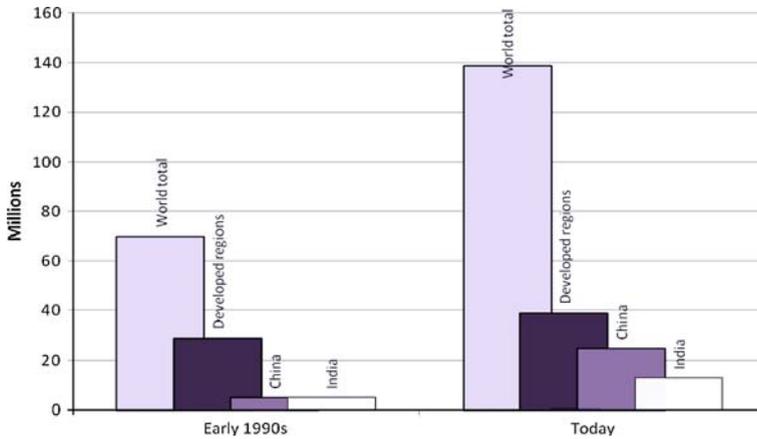


Fig. 1 Number of higher education students (in millions) in the early 1990s and today
Source: UNESCO Institute for Statistics; Agarwal (2009); OECD (2007b)

is likely to grow in the future, as these countries expand and improve their higher education systems.

Both countries realize that higher education is key to development and recognize the necessity of expanding their higher education systems and building some world-class research universities at the top of a differentiated system. India educates approximately 10% of its university-age population, while China enrolls about 22%. China is now number one in enrolments, with more than 27 million. India's 13 million enrolment ranks third. Both countries have been expanding rapidly in recent years. Since the early 1990s, China's post-secondary enrolments have grown from 5 to 27 million, while India has expanded from 5 to 13 million (Agarwal 2009; OECD 2007b). Perhaps one-third of the world's 139 million post-secondary students are in Chinese and Indian institutions of higher education (Fig. 1).

Significant quality problems exist in less-selective colleges and universities in both countries. Many of India's impressive number of engineering graduates, up to 75% according to a McKinsey report, are too poorly educated to function effectively in the economy without additional on-the-job training (Jha 2009; Surowiecki 2007). Part of China's growing problem of graduate unemployment is related to the poor qualifications of some students.

Higher education comprises a policy priority in both countries. For almost two decades China has been engaged in a significant upgrade in the quality of its top universities as well as in a major expansion of enrolments in all higher education sectors. While India has for decades recognized the importance of expanding higher education access and improving quality, only quite recently have significant resources been allocated, with the Knowledge Commission's higher education recommendations of 2006 and more recent government commitments (Tilak 2007). Current plans, for example, call for expanding the number of top-tier higher education institutions (Agarwal 2009).

Basic stability and consistent policy orientations for higher education, while reasonably clear as seen from today's perspective, cannot be projected with great certainty into the coming decades for either country. In a way, China today may be seen as too stable, while India is perhaps overly unstable. India's relatively open political system may permit it

more flexibility in coping with adversity, but it could fail to produce practical solutions or imaginative plans to improve higher education. China's state planning apparatus has developed higher education impressively, especially at the top of the system, but may lack flexibility. Both may be more profoundly buffeted by internal forces or regional and global changes than many other parts of the world. The past shows that China is capable of dramatic, sometimes unpredictable policy shifts. India, constantly debating new directions, changes gradually and often without clear planning (Li et al. 2008).

The future of higher education policy in both countries depends to a significant degree on several factors. Demand relates to the continuing expansion of the middle class—the population group most motivated to educate its children for social mobility and participation in the modern economy—which has the resources to pay tuition and other fees and educational qualifications for admission. Other population groups have an interest in higher education access, too, but the middle class is the largest force, has dramatically expanded in recent years, and is likely to continue to grow. While estimates vary considerably, many experts agree that the Indian middle class now numbers more than 50 million, and China's is similarly large. Some estimates predict that by 2025 each country will have a middle class of perhaps 500 million. A significant number of these large groups will demand access to higher education, creating huge strains on the system. Government policy regarding funding higher education and supporting research universities and the elite sector of the system is a key factor shaping higher education prospects.

A difficult history

For higher education systems, history plays a role in the present. For both China and India, the academic past has created difficult, problematical results for the present—and likely for the future, too. In common with all of the world's higher education systems, both inherited the Western academic model (Ben-David and Zloczower 1962). In common with most developing countries, both countries have largely not taken advantage of their extraordinarily rich indigenous intellectual and academic traditions. China, after all, invented national examinations with the Confucian examinations used for several millennia to select civil servants and advanced institutions to train people for these tests. India had some of the world's oldest universities, such as Nalanada in Bihar. These academic traditions predated Western universities by more than a thousand years. However, these ancient academic institutions and traditions have little relevance today.

In the nineteenth century, forward-looking Chinese recognized the need to modernize to compete with the West and develop economically. Western academic models were chosen—through a small number of European-style universities established in the late nineteenth century along China's east coast in areas, controlled by European powers (Hayhoe 1999). Peking University was established with American assistance and the support of the waning imperial government. Christian religious organizations were working actively in China at the time and established several universities. Thus, by the time the imperial system was overthrown in 1911, a small number of Western-style universities existed, and many Chinese had been educated in the West and in Japan.

While the new republic moved to strengthen the existing universities and establish more institutions, civil war, economic disruption, and Japanese invasion prevented much progress from being made. At the time of the establishment of the People's Republic of China, in 1949, the higher education system was small and weak. The entire higher education system in China had only 205 universities, mostly concentrated on the east coast and in

Beijing and a few other large cities, and a total of 116,504 students (Hayhoe 1999). The new Communist regime looked to the Soviet Union for academic leadership and reorganized higher education according to the Soviet model, splitting up many of the existing universities into smaller, specialized, vocationally-oriented institutions, in most cases linked to operational ministries. Soviet-style research academies were established, separate from the universities. Normal academic development was frequently disrupted. Academic freedom was limited and the emergence of an effective academic profession was hindered. Few Chinese students or scholars gained an opportunity to study abroad, and those who had a chance were restricted to the Soviet Union and the Eastern European socialist countries.

The most severe disruption came with the Cultural Revolution, from 1966 to 1976, which closed the entire higher education system, sent many professors and students to rural areas to work, and destroyed a generation of academics. Few countries have suffered such a dramatic academic cataclysm. With the end of the Cultural Revolution in 1976 and the subsequent opening of China to the rest of the world, the universities were reopened and efforts were made to look to the West for academic guidance. Chinese students were able to study abroad. Universities were permitted to look abroad for new academic ideas and were given funds to re-establish themselves. The Soviet pattern of highly specialized vocational institutions was partly dismantled. Political control was loosened as well. By the 1990s, as China's economic boom began, the university system was poised to expand.

India was a British colony for more than two centuries, ending with independence in 1947, and this experience shaped higher education and continues to influence it. The British did not give much support to higher education in their colonies. Higher education first expanded mainly due to the initiative of the growing middle class in the mid-nineteenth century, while the British recognized that an educated civil service was needed to administer India. In 1857 the first universities were founded in Calcutta, Bombay, and Madras. The Indian colleges and universities were British in organization. These institutions, teaching exclusively in English, displaced the few remaining traditional schools, which simply withered and died. Higher education was based on an organizational pattern where the universities constituted examining bodies more than teaching institutions. Most of the teaching took place in undergraduate colleges affiliated to the universities; examinations and curriculum were by and large controlled by the universities. This structure enabled centralized control over the colleges.

From the early nineteenth century, almost all higher education in India was entirely in English; no Indian language was used for instruction or examination. The curriculum was largely limited to fields useful to the administration and to India's emerging professional classes—such as law, the social sciences, and related fields. While the academic system remained quite small—at the time of independence 369,000 students were studying in 27 universities and 695 colleges (Agarwal 2009)—it succeeded in educating a cadre of graduates who provided the leadership of India, Pakistan, Sri Lanka, and, later, Bangladesh. As late as 1961, only 1.5% of the relevant age group participated in post-secondary education (Agarwal 2009). There was little research capacity at India's colleges and universities at the time of independence, as the British had not been interested in spending money on research there; and since higher education was in English, more than 90% of the Indian population was excluded from access.

Despite many reports and much criticism, higher education expanded between independence and the end of the twentieth century, although there were few structural changes. Enrolments expanded from little more than 100,000 in 1950 to 9 million by the end of the century (Agarwal 2009). Annual growth was sometimes 10%. Most observers agree that

overall quality declined and that the basic structure of the system remained quite similar to the colonial system inherited from the British (Kaul 1974).

The university arrangements inherited by both countries in the mid-twentieth century were not helpful for the development of an effective higher education system. In the following years China made many changes in its universities, but most followed Soviet patterns, and the actions were not effective in building universities that could compete internationally or serve the needs of China's modernization. India, on the other hand, expanded higher education slowly in the years of independence and more rapidly later but made few structural changes. As a result, universities were less than effective in meeting the needs of Indian society.

Contemporary characteristics

Both countries emerged into the mid-twentieth century with somewhat dysfunctional academic organizations. The Soviet model, which China followed after 1950, dismantled many of the comprehensive universities into smaller, specialized institutions attached to the relevant operational ministries rather than the Ministry of Education. These smaller institutions were, for the most part, narrowly vocational and did not do much research. Research was mainly in the hands of the institutes of the academies of science that were divided by discipline or field and were not part of the university system. The dual Chinese administrative structure that continues to the present time has been questioned in terms of its academic effectiveness. Each academic institution has an academic administration headed by a rector or president and a Communist Party administration headed by a party secretary or executive vice president. It was only after the Cultural Revolution that the specialized institutions were slowly reintegrated into universities. While the academies still exist, they are in some cases linked with universities. The partial bifurcation between teaching and research continues to be a problem in China (Min 2004).

India's post-independence academic system was inherited from the British. The universities, to which almost all of the 700 undergraduate colleges were affiliated, were mainly examining bodies, with small post-baccalaureate programmes. These colleges, generally small with around 500 students, were affiliated to universities that determined the curriculum, set and administered examinations, guided admissions, and awarded degrees. The undergraduate colleges possessed little autonomy. This affiliating system, although much criticized, continues to the present. A few of the universities were single-campus "unitary" institutions without affiliated colleges, and these resembled academic institutions in the West with undergraduate and graduate as well as professional degree programmes. A few research organizations in specialized fields do advanced basic research in some scientific disciplines. While much has been added to the Indian higher education establishment, little has changed in the basic structure of the universities (Jayaram 2004).

China has moved consciously toward a differentiated academic system, having so far paid special attention to the top of the system, especially to the 150 or so research universities that are the responsibility of the central government. Most of China's approximately 1,700 universities are funded by and are responsible to the provincial governments and in some instances to municipal authorities. These universities tend to be in the middle and toward the bottom of the academic hierarchy. There is currently a move to expand the non-baccalaureate sector in ways fairly similar to American community colleges. The emerging private sector tends to be at the bottom of the hierarchy. While China has not formally developed a coherent, articulated academic system with clearly defined missions

and variable patterns of funding, it seems that such a system is emerging. It is likely in the coming decades that a clearly articulated, differentiated academic system will develop with input from both the central government and the provinces.

India does not have a coherent, differentiated academic system and as of 2009 has not identified a strategy for moving toward a system approach. India has a widely respected, small, élite sector of specialized academic institutions, most notably the Indian Institutes of Technology, now numbering 13. The government recently announced that it will establish an additional eight Indian Institutes of Technology and seven Indian Institutes of Management, along with 30 new research-oriented central universities, 10 National Institutes of Technology, two Indian Institutes of Science, and 1,000 new polytechnics (Hindu 2008). The bulk of the Indian higher education system, however, is undifferentiated. The 380 universities, mostly under the jurisdiction of Indian states, which have primary responsibility for education in India's federal system, are largely undifferentiated. The 24 universities under the control of the central government tend to be somewhat better funded and of higher quality than the rest, but there is no clear differentiation among the universities. India has almost 20,000 post-secondary institutions—more than 17,000 of these are colleges offering mainly undergraduate degrees (Agarwal 2009). Oddly named, “deemed” universities are university-level institutions, mostly specialized, recognized by the University Grants Commission, a central government agency, and thus have degree-granting authority. Additional technical institutions are recognized and evaluated by the All-India Council of Technical Education, another central government agency. India has not yet attempted to define a coherent, differentiated academic system. The variety of institutions, sponsorship, and jurisdiction make the emergence of such a system very unlikely under current circumstances.

If this description is confusing, it is because academe has grown without planning in response to massification and the need for new kinds of institutions to serve an expanding economy. Responsibility for higher education is divided among several agencies in the central government, the states (which have different policies and perspectives), an increasingly powerful private sector, and occasionally the courts. Over the years, efforts to reform higher education have sidestepped the traditional universities and rather have added new institutions alongside them. The Indian Institutes of Technology were established in this way. There is no formal division of responsibility for access or research (Jayaram 2004).

Governance

While building an effective academic system is a necessity, so too is the effective governance and management within academic institutions. Both countries face challenges in the internal governance of universities and other post-secondary institutions. Because of reasons as diverse as colonial history or a tradition of overweening bureaucracy and current political realities, these countries have academic governance arrangements that are in some ways dysfunctional. There is general agreement that the most effective universities have a combination of self-governance and autonomy, on the one hand, and appropriate accountability to external constituencies and professional management on the other. Neither China nor India has much self-governance. Academic institutions at all levels are subject to extraordinary bureaucratic controls, often imposed by government.

In the Indian case, the undergraduate colleges affiliated to universities are generally dominated by university rules and regulations and have little scope for autonomous

decision making. The large majority of the universities that are controlled by the state governments are in general tightly controlled by them. Political interference with academic decisions is widespread, from hiring academic staff to creating new programmes.

China's unique combination of academic and political governance arrangements, with an academically selected president and an executive vice president chosen by the Communist Party, sometimes creates administrative tension and certainly reduces self-governance by the academic community. In recent years China has been looking toward an American-style academic leadership model. The top universities have been strengthening academic leadership, especially in the office of the president, and have been trying to give more authority to department chairs and other senior administrators and to implement a faculty responsibility system that includes accountability for research and teaching (Min 2004).

Funding

Both countries face significant challenges in funding their rapidly expanding higher education systems (Agarwal 2009; OECD 2007b). While the two have experienced rapid economic growth in recent years—10 percent or higher GDP expansion—they remain developing economies. In 2008 China had a per capita purchasing power parity income of \$5,370, while India's was \$2,740 (World Bank 2008). In both countries, increasing tuition costs in both public and private sector institutions have shifted a growing burden for funding higher education to students and their families. Neither country has an adequate system of grants or loans to ensure equal access to higher education, although both have some financial aid programmes in place and have made efforts to provide access for poor students and students from disadvantaged populations.

Public funding for higher education comes from a variety of sources and there seems to be relatively little coordination among them. In both countries, the bulk of funding emerges from the state and provincial governments, which have a large measure of autonomy related to the amounts spent on higher education and how allocations are made. Some states and provinces prioritize higher education, while others do not. The central authorities in China and India are mainly concerned with funding the top tier of universities and ensuring that research is appropriately supported. China provided much more funding to the research universities, partly through the 985 and 211 central-government-funded support programmes—approximately 150 universities have participated in these key projects. The Indian government, largely through the University Grants Commission, sponsors 20 universities and provides funding for innovative programmes of university-based research, and to some other institutions.

Calculating private funding for higher education in China and India is quite difficult. Both countries have growing private higher education sectors, and public universities all charge tuition fees to students. Indeed, in India the large majority of students study in private colleges, some of which have public support from the state governments, while a growing number are “unaided” and have no public support. There are also 11, as of 2007, fully private universities that receive no government funding. Tuition levels vary in the private sector and are in some cases regulated by government authorities. The situation in China is similarly complicated. The *min ban* private universities and colleges are quite diverse in purpose and role. A small number are recognized by government authorities to grant degrees. All are dependent on tuition, and costs vary. Many Chinese public universities sponsor affiliated semi-private branches or other degree-offering programmes that

are not state funded and charge higher tuition fees. These programmes are intended, in part, to provide needed revenues for their sponsoring universities as well as to increase access. Some critics have accused them of having low academic standards and a controversy has risen relating to the degrees offered.

There is universal agreement that the funding provided by public sources for higher education in China and India, as is the case worldwide, is inadequate to meet demands for both quality and access. India spends 0.37% and China 0.6% of GDP on post-secondary education—both under expenditures for other emerging economies and well under the 1% or more spent by developed countries.

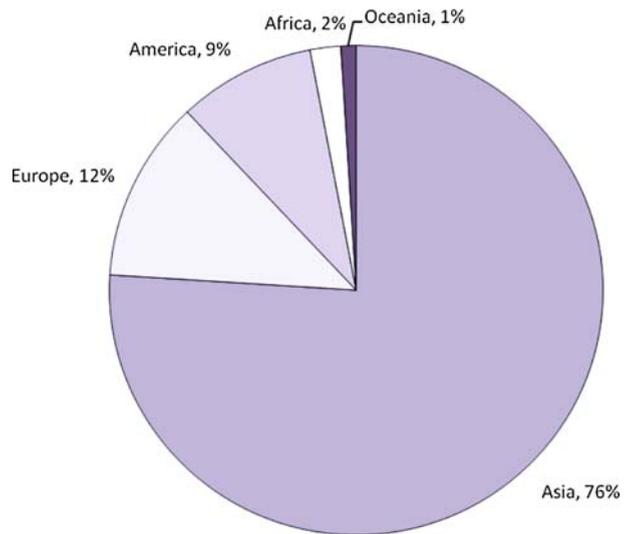
China and India as international higher education players

In very significant ways, both countries loom large on the international higher education scene and will become much more central in the future. Currently, their importance is largely unrelated to their own policies but results from the exodus of students and professionals to the West and elsewhere since the 1970s. China and India are the top two exporters of students and have been so for the past two decades. In 2008, approximately 200,000 Indians and 892,000 Chinese were studying abroad; these numbers constituted close to half the world's total of international students (Agarwal 2008). Regardless of enrolment expansion, the two countries are likely to remain at the top of the export lists in the coming decades for several reasons. The main reasons, in India particularly but also in China, consist of the insufficient number of places in elite universities for the brightest students. The prestige of a foreign degree from a top Western university has considerable cachet. An insufficient number of places are available in the academic systems for the expanding numbers of students seeking entry, and an unknown number of young people will seek foreign education as a first step toward emigration (Agarwal 2008; Altbach 2006). For students who do not score at the top of the university entrance or other examinations, obtaining a degree abroad may often be seen as preferable to studying in a less-prestigious, local university. The growing middle class in both countries can increasingly afford to send their children abroad. Growing numbers of Chinese and Indians will continue to go abroad to study.

Large numbers—statistics are unavailable—of Chinese and Indian scholars and researchers are working abroad. Probably a majority of these expatriates obtained their doctorates abroad and did not return to their home countries. Some have estimated that, from the 1970s up to 2005, 75–80% of Chinese and Indians who obtained their doctorates in the United States did not return home, although many have academic and other relationships with their home countries. According to the Chinese Ministry of Education, 815,000 students went abroad to study between 1978 and 2004, and 198,000 returned. Statistics for other Western countries are likely similar in terms of non-return rates. Since the 1990s, more graduates appear to be returning home due to the improved economic and academic conditions in China and India, and there are closer relations between the diasporas and the home country.

China has implemented an international education policy since 2000, and India is debating its approach to international higher education. China's multifaceted policy includes aggressive plans to attract international students to China. More than 200,000 international students were studying in China in 2007, three-quarters of them from Asian countries. China also awards more than 10,000 scholarships. Many Chinese universities have expanded their campus facilities for international students. Chinese universities view hosting international students partly as a way of earning income as well as adding a

Fig. 2 Distribution of international students in China's higher education system
Source: China Scholarship Council 2005



valuable international dimension to the institution. Government-sponsored Confucius Institutes, now numbering more than 292 with plans for 1,000 by 2025, provide Chinese-language instruction and cultural programmes, mainly on university campuses worldwide (Fig. 2).

India's international efforts lag behind those of China. In 2008, approximately 20,000 international students studied in India, most of them from South Asia, Africa, and the Indian diaspora. Few Indian universities have either facilities or staff for international students. Some policymakers see a significant potential for India because much of the higher education system teaches in English. However, without significant investment in infrastructure, as well as a more coherent policy, Indian initiatives are unlikely to succeed (Agarwal 2006).

Of special significance are the respective roles of China and India as regional higher education powers. China is already a key partner with its neighbours in northeast Asia—hosting, for example, 35,000 students from South Korea. India, with South Asia's largest academic system, hosts students and has exchanges with Sri Lanka, Nepal, Bangladesh, and Bhutan.

Other countries see China and India as major markets for their higher education initiatives. Foreign involvement is already significant in both countries, and considerable potential for expansion can be envisaged. For example, 11,000 students are studying in China for British academic degrees through various kinds of collaborative arrangements, and 200 British institutions have programmes in China. American academic institutions are also active in China, such as Johns Hopkins University, the University of Michigan, and many others including numerous small colleges. It is estimated that well over 1,000 foreign academic institutions have some kind of collaborative arrangement in China, including two fully-fledged branch campuses of British universities (Fazackerley 2007). At least 150 foreign academic institutions had various kinds of joint-degree or other collaborative arrangements in India, the largest number (66) being from the United States and second largest (59) from Britain (Helms 2008). Most collaborations offer professional programmes. News reports indicate strong international interest in India, and once legislation is in place the pace of collaboration and involvement is likely to increase significantly.

While China has had legislation in place since 2003 to regulate foreign collaboration, India is still in the process of implementing rules. The role of independent branch campuses, ownership of institutions, the role of the private and the for-profit sectors, quality assurance for foreign institutions, the role of franchised overseas degree programmes, and other complex issues have proved controversial (Helms 2008; Agarwal 2008).

Research universities

At the pinnacle of any academic system are research universities (Altbach and Balán 2007), which tend to be the link to the international network of science and scholarship, producers of much of the research in the academic system, and educators of the élites for key positions in society. Countries like China and India, with large academic systems and complex, advanced economies that are increasingly knowledge based, would tend to benefit from having a number of research universities that can compete with the top universities worldwide and serve the national academic system and rapidly growing economies. Both countries recognize the need for research universities at the top of the academic systems.

In 2008, neither country constituted an academic powerhouse, although China is moving in that direction. Neither country has a single university in the top 100 of the 2008 Shanghai Jiao Tong University's academic ranking of world universities, which mainly measures research productivity (SJTUIHE 2008). China has two (Peking University and Tsinghua University) and India none in the top 100 of the 2008 *Times Higher Education/ QS* ranking, which measures academic reputation as well as performance (*The Times Higher Education* 2008). However, both systems have ambitions to join the top ranks of research superpowers.

For historical reasons, China and India have specialized research institutions that are separate from the universities. In the Chinese case, the research academies are part of the Soviet legacy of academic organization. Most of India's research institutes stem from the pre-independence period. The institutes of the academies of science in China have excellent working conditions and generally higher prestige than the universities, often attracting the best talent. There are fewer research institutes in India, and their role is not quite so central. Some of the institutions sponsored by the Chinese Academy of Science (CAS) and the Chinese Academy of Social Sciences offer Master's and doctoral degrees. For example, 30,000 graduate students are enrolled in CAS institutions. Similar institutes in India in some cases also offer advanced degrees. There is general agreement that it is better to have research and teaching in the same institutions, and some efforts have been initiated in China to integrate the institutes with neighbouring universities.

China has a multifaceted programme to build world-class research universities, and well over 20 billion purchasing power parity dollars have been spent on building an élite sector in Chinese higher education. At the core are several strategies. A series of mergers of more specialized universities was implemented in the 1990s to form the basis of some institutions, essentially re-establishing the comprehensive universities that existed prior to the Soviet-style changes in the 1950s. The most important effort included two major initiatives supported by central government: the 1993 211 Higher Education Project that identified 100 universities for upgrade to establish them as research-intensive institutions; in 1998, at the time of Peking University's centenary, the 985 project was inaugurated, aimed at creating 40 "world-class" universities in China (Liu 2007; Ma 2007). The 985 project built on China's existing research-oriented universities in all parts of the country, but

predominantly in the coastal provinces and Beijing. Central government funds were provided for infrastructure, including a number of impressive new campuses, and for a range of interdisciplinary centres and other upgrades. Provincial and other authorities gave additional support. For example, the Shanghai government has supported its four 985 project universities, adding resources to those of the central authorities. In some cases, neighbouring universities were merged, new campuses built, and emphasis placed on the research mission.

These reforms have had a profound impact on the top level of Chinese higher education. The infusion of funds has permitted impressive new facilities to be built, including some entirely new campuses. Reorganization has emphasized interdisciplinary work. Mergers have in some cases created centres of excellence. New organizational structures have strengthened academic productivity and a more effective career structure. The reforms have also diversified the academic system in general, creating much greater inequalities between institutions and sectors. The variations in quality, funding, mission, and other factors between the top, the middle, and the bottom of the academic system are much greater than they were prior to the reforms.

India has no world-class research universities (Jayaram 2007). The global higher education rankings include just a few Indian institutions, mainly the Indian Institutes of Technology, which are not universities but rather small, high-quality technology institutions. While a small number of India's 431 universities have excellent research-focused departments and institutes, it is fair to say that few if any can claim overall excellence as research universities. The 25 universities sponsored by the central government tend to be of higher quality than the 230 state universities. Six of the central and 114 of the state universities have affiliated colleges—some 20,667 in all (India, Ministry of Human Resource Development 2009). The highly regarded Indian Institutes of Technology and Indian Institutes of Management and a handful of other specialized institutions are recognized as internationally competitive. The Indian Institutes of Technology, for example, have a total enrolment of around 30,000 combined—more than half at the undergraduate level. But they are all small, specialized institutions. Their research productivity, while impressive, is limited by the size and mission of the institutions (Indiresan 2007).

The Achilles' heel of Indian higher education is indeed represented by the traditional universities. The state universities in particular are characterized by endemic underfunding, political interference, often a significant degree of corruption in academic appointments and sometimes admissions and examinations, and inadequate, ill-maintained facilities (Indiresan 2007). The tremendous burden of supervising the affiliated colleges saps the energy and creativity of most universities. The University of Mumbai, for example, has 364 affiliated colleges, while the University of Calcutta has 170 and Delhi University 83. Although most of the students are located in the undergraduate colleges, the universities are responsible for examinations of huge numbers—for Mumbai, Calcutta, and Delhi, respectively. It is hardly surprising that the few successful reform efforts in the past half-century have bypassed the traditional universities and have established entirely new institutions, such as the Indian Institutes of Technology. The fact is that unless the traditional universities can be reformed and improved, Indian higher education will not be able to progress beyond the excellent periphery of the Indian Institutes of Technology and related, mainly specialized institutions.

While many official reports have called for the reform of university and college affiliation, almost nothing has been accomplished in a half-century. Starting with the University Education Commission (Radhakrishnan Commission) in 1948–1949 and proceeding to the 1964–1966 Education Commission (Kothari Commission), numerous thoughtful

recommendations for higher education reform have been made, including proposals to foster research universities, “decouple” the colleges from the universities, and many others. A combination of the lack of political will, entrenched academic and at times political interests, a divided political system, and resource constraints have contributed to this gridlock (Jayaram 2007, pp. 74–76).

Current government plans to build new universities do not address the perplexing problems of reform. While initiatives to establish new Indian Institutes of Technology, central universities, technological institutes, and other institutions fail to grapple with the problems of the existing universities, neither do they indicate how these new universities will improve upon the existing organization or other practices of the existing institutions. Indeed, the beacons of excellence in Indian higher education are likely to continue to lie outside the traditional universities. The reformers who established the Indian Institutes of Technology, the Indian Institutes of Management, and other innovations, for example, all ignored the traditional universities and established new institutions without calling them universities.

The academic profession and academic culture

At the centre of any post-secondary institution stands the academic profession. Without well-educated, committed professors, no academic institutions can be academically successful. China and India, in part because of the scale of their academic systems, face major challenges in developing and sustaining a professoriate capable of providing instruction and leadership. The large number of academics needed for these expanding systems of higher education is unprecedented. Providing training at the doctoral level for a substantial proportion of the academic staff will be difficult to accomplish. Creating and sustaining conditions for academics to do their best work and to retain the “best and brightest” in the profession is also a concern. Finally, establishing an “academic culture” that promotes meritocracy, honesty, and academic freedom is mandatory for a successful academic system.

More than 550,000 full-time academics are teaching in Indian colleges and universities and 1,200,000 in China. An additional 350,000 part-time instructors work in Chinese higher education and a small but growing number in India. The large majority of academics are teachers of undergraduate students and do little research, if any. Most academics in both countries do not hold a doctorate and some have earned only a bachelor’s degree; only 9% have doctorates in China, although 70% hold doctorates in the research universities, and around 35% in India, again with a higher proportion of PhDs in research-oriented university departments. Teaching loads tend to be quite high for those teaching undergraduates exclusively. Conditions for academics in colleges and universities located in rural areas and less-developed regions compare unfavourably with urban institutions. On the other hand, the small minority of academics, probably under 3% of the total, who teach graduate (postgraduate) students and are appointed to research-oriented departments in the better universities, are much better off in terms of remuneration and working conditions. In India, only academics holding positions in university departments and specialized research institutions are expected to do research. Most, if not all of these academics hold doctoral degrees, often from distinguished universities in the West (Chen 2003).

Academic freedom is a central issue in both countries, although India can claim a better environment in this area. In India, academic freedom is official policy throughout the academic system. The problem concerns local adherence to its norms. Academic freedom

is affected by a combination of overweening administrative power, sensitivity to religious and ethnic sensibilities, and some political inference in academic matters. Despite these constraints, scholars can in general publish without restriction in academic journals or in newspapers or other publications. Violations of academic freedom are more the exception than the rule.

The situation in China differs considerably, although conditions are improving (He 2002). Informal yet widely acknowledged restrictions on academic freedom exist in some fields. Academics, especially in the social sciences and some humanities fields, understand that some areas of research and interpretation are “off limits” and certain kinds of criticism may result in sanctions, including dismissal and on rare occasion’s prosecution. Academic journals, while providing more leeway than the popular media, exercise some controls over what can be published, and self-censorship is common. As Chinese universities seek to compete globally, academic freedom is becoming more recognized as a necessary part of a world-class university.

An effective academic culture must be free of corruption, yet some problems of corruption exist in both countries. In China the most visible aspects of academic corruption are in the occasional reports of plagiarism and the misuse and at times falsification of data. In some less prestigious universities there have been reports of bribery for admission or grades. When discovered, offenders are often humiliated and punished. Yet such corruption seems embedded in academe, at least to some extent, to judge by newspaper and Internet reports. The problem in India is much more widespread and generic, involving some plagiarism and related misconduct. In addition, academic administrators and sometimes professors practice bribery in the admission of students, falsifying examination results, selling exam questions and answers, and other kinds of malfeasance. Academic corruption, while common, is more serious in some parts of India and in some institutions than it is in others. For example, the élite Indian Institutes of Technology, Indian Institutes of Management, and other top institutions have seen very few cases, while many problems have been reported in states such as Bihar or Uttar Pradesh.

To build an effective academic system the academic profession must be adequately paid and enjoy adequate campus working conditions. In a recent international survey of academic salaries, China and India were at the bottom of a group of 15 countries (Rumbley et al. 2008). At an average of USD 1,182 for China and USD 1,547 for India, salaries were 25% of US averages and modestly less for most western European salaries, while still permitting academics in both countries to live in the middle class of their countries. These comparisons are made on the basis of 2008 purchasing power parity. Further, unlike in many countries, most Chinese and Indian academics acquire full-time appointments. Many were able to earn more income through additional allowances. It is noteworthy that Indian salaries are on average higher than those in China, despite India’s lower GDP. Moreover, the Indian government has recently announced plans for a significant salary increase. However, the fact that academic salaries do not compare favourably with the remuneration of similarly educated professionals at home or with academics in the developed countries may mean that many of the best-qualified people choose not to work in universities. The profession may not be able to retain the “best and brightest” in many cases (Fig. 3).

Building an academic culture and providing adequate salary and working conditions for the professoriate are crucial for the entire profession, and especially important for the top of the academic hierarchy. Indeed, building competitive research universities requires a reasonably well-paid professoriate with working conditions at least somewhat comparable to global standards, since top academics are part of a global labour market (Rumbley et al. 2008). China’s top universities have a flexible remuneration policy that can pay top

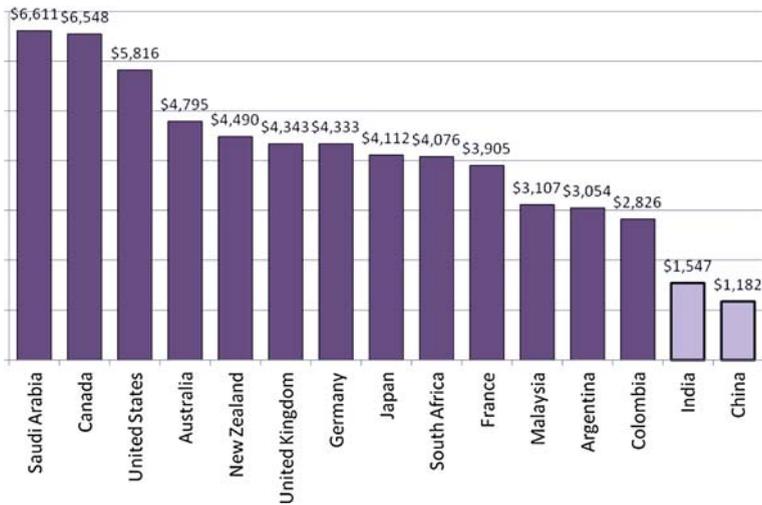


Fig. 3 Average monthly salaries, selected countries (USD, 2008 purchasing power parity)
Source: Rumbley et al. (2008)

Chinese academics salaries significantly above local norms and in some cases permitting “star” professors to hold part-time appointments abroad. India has no such policies and, as a result, is unable in most cases to attract its best scholars to return home.

The common practice in both countries of hiring one’s own graduates for teaching positions, while common in many countries, creates problems when building a productive, independent academic culture. The university’s own graduates may not be the best possible candidates for positions, they have been socialized into the culture of the institution, and find it difficult to do their best creative work. They fit too easily into existing departmental and faculty hierarchies. China’s top universities have recognized “inbreeding” as a challenge and have put rules in place to stop the practice, but most of the Chinese academic system still uses this hiring practice. Inbreeding is also frequent in India (Jayaram 2003).

Both countries have elements of an effective academic culture in some of their top institutions, as well as in other parts of the academic system. But the challenge remains to embed a transparent, competitive academic culture to reward merit in hiring and promoting academics up the ranks. Petty corruption persists at some institutions, as do overly bureaucratic controls, formal and informal limitations on academic freedom, the practice of inbreeding, and other problems. These issues hinder the creation of a world-class academic culture.

Access and equity challenges

The population of China exceeded 1.3 billion and that of India 1.1 billion in 2007 (World Bank 2008). One of the greatest challenges to higher education in both countries consists of providing access to the growing segments of the population demanding post-secondary education. A related issue is providing equity to population groups underrepresented in the student population. At present, India is still at the “élite” stage of access, with 10% of the age cohort entering higher education (Trow 2006). The government has recognized the need to expand access to 15% during the 11th Five Year Plan (2007–2012) and to 21% by the end

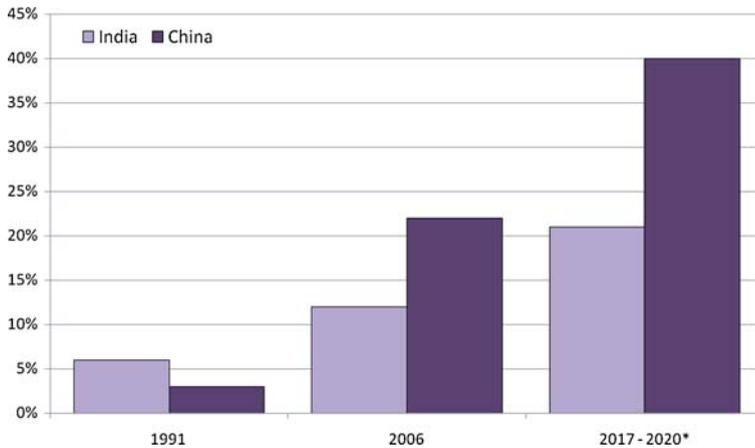


Fig. 4 Higher education participation in China and India (gross enrolment ratio 1991–2006, * official targets for 2017 and 2020)

Source: World Bank (2008); Government of India; Government of China

of the following plan in 2017. This expansion would be the largest in India’s history and will require a dramatic growth in institutions as well as expenditure. China, already at a 22% participation level, is approaching mass access. It builds from a higher base, but significant expansion will take place as well. In 2005, the minister of education indicated that the participation rate would be 40% by 2020. Indeed, the majority of the world’s enrolment growth in the coming two decades will take place in just these two countries (Kapur and Crowley 2008) (Fig. 4).

Both countries recognize the need to focus more on post-secondary education; they have seen dramatic expansion in the past decade and plan on continued growth in the coming decades. A variety of strategies are evident, and they are similar in both countries. The private sector is a major source of “demand absorption”. The countries have permitted the continuing expansion of private institutions, although, as noted earlier, both are ambivalent about the conditions under which the private sector should function, the role of for-profit institutions, and other topics. For India, “unaided” private colleges and universities are the fastest-growing sector, while in China, a combination of *min ban* (private) institutions and semiprivate offshoots of public universities are absorbing much of the new demand for access.

Equity, which is not the same issue as access, involves higher education for population groups that may be under-represented in the system and, depending on the country or region, includes gender and socio-economic inequalities, rural and urban disparities, and ethnic or other minority groups. The urban and rural divide is immense, both in China and India, which has implications for access and equity. In common with many developing countries, a majority of the population lives in rural areas. Even with the dramatic urbanization of both countries, a substantial majority of the population is still rural, where income, literacy, access to education at all levels, life expectancy, and quality of life measures are all poorer than in the urban areas. Access to higher education is dramatically poorer, and quality tends to be poorer as well.

Equity is in many ways a more difficult challenge than higher education access. Historically, equity has been a major concern of Chinese and Indian government planners.

Many of the top universities have regional quotas so applicants from all over China can get access. In the past few decades, equity has become a less important priority than access. In higher education, as in other aspects of the society and economy, the disparity between the affluent coastal areas and the vast interior is significant. Rates of access to higher education in western China are significantly lower than in the coastal provinces and the large cities, as is the overall quality of the universities. Fewer data are available concerning access rates for China's minority groups and disparities according to gender or social class. From the beginning of the People's Republic, China has devoted considerable attention to these inequalities by encouraging expansion of access in western China. In the 1980s, loan programmes were implemented to permit students from poor backgrounds to participate in higher education. However, major inequalities persist. It is possible that the continued prosperity in the high-growth regions of the country may raise inequalities, although data are unavailable.

The most controversial issues in Indian higher education include the array of policies aimed at improving access and equity for tribal groups, lower castes, and *dalits* (a self-designation of the traditional "untouchable" or lower groups in the Hindu caste system). Policies relating to what in India is called "positive discrimination" are politically charged and often the subject of acrimonious debate, legal acrimony, and litigation. Since independence in 1947, positive discrimination, also called reservations, throughout the public employment system and in higher education in India has meant that *dalits* and some additional lower castes (known as Other Backward Castes) and tribal groups have proportions of seats in colleges and universities, positions in the civil service, and some other sectors reserved for them. This means that post-secondary institutions are required to hire, and enroll, a fixed percentage of these groups—almost half of the total. While positive discrimination has been a policy of the Indian government for decades, a considerable debate is still under way about both the justification for and the effectiveness of the policy. Positive discrimination has been claimed as largely ineffective in raising the status of the groups it is intended to help and a mistaken social policy in a meritocratic society (Mahajan 2007). At the same time, court orders have expanded the scope of the "reservation" system to institutions, such as the Indian Institutes of Technology, where it had previously not been fully implemented. A 2008 government decision mandating that the Indian Institutes of Technology, seen as bastions of meritocracy, must hire professors according to the strictures of the positive discrimination laws has renewed debate about the policy in general.

In many parts of the world, despite years of policy innovation, equity remains a key dilemma and access still a matter of concern for some social groups. For China and India, as well as other countries, access is in some ways the easiest problem to solve. Permitting the expansion of the private sector, various kinds of affirmative action programmes, building post-secondary institutions in remote areas, providing financial incentives to students from disadvantaged groups, and other policies, all have helped to varying degrees. But inequality remains a characteristic of higher education systems, and China and India are no exceptions.

Private provision

Worldwide, private higher education is the fastest-growing segment of post-secondary education (Altbach 2005). China and India both have significant private higher education sectors, even though China's private higher education sector remains a relatively small part of total enrolments and number of institutions. About 4,300,000 students attend private

post-secondary institutions—1,600,000 in private universities, 1,800,000 in second-tier colleges of public universities, and 870,000 in other kinds of institutions (China, Ministry of Education 2007). In addition, there is a large private vocational sector, and many of the private institutions are not authorized to grant degrees. A small number call themselves universities, and a smaller proportion has been awarded the right by the Ministry of Education to offer university degrees. Some of the new private schools are nonprofit entities, while others are owned by business enterprises, families, or other arrangements. While accurate statistics concerning the total number of private institutions in all categories—including many that are not authorized to offer degrees—are unavailable, the number is well over 1,000. Permission to establish private higher education institutions has been granted relatively recently, and most private institutions have been in existence for only a decade or two.

Semiprivate colleges have also been established. Some Chinese universities, to earn extra income and meet local demand for access, have established private affiliated colleges that have a relationship with the sponsoring university. Classes are taught by regular university staff for the most part. Some problems involve the degrees offered by these affiliated institutions. Many students expected that regular university degrees would be offered, although the actual degrees were not from the sponsoring institution. Conditions of study vary in these affiliated colleges. In some cases, students sit in the same classrooms with regular students, while in others they attend in the evening. In still other cases, the affiliated colleges are housed in entirely different buildings.

In general, the private sector has grown in response to the demand for access to higher education and an interest in some vocational courses that cannot be met by the existing universities. The regulations concerning earning profits from higher education institutions are not entirely clear, and many different arrangements seem to be in place, often far from transparent. Government agencies try to maintain some quality and fiscal control over the private sector. Regulations change, though, and the numbers of institutions have been growing rapidly; problems of management, financial transparency, and quality assurance exist. Nonetheless, the private sector is expanding and is becoming more diversified as a few private universities seek to compete with some of the better Chinese universities. For the present, however, if a student has a choice of enrolling in a public or a private institution, he or she will consistently choose the public institution, not only because of the cost of tuition (much higher in the private schools) but also because of prestige.

The situation in India is immensely more complicated (Gupta et al. 2008). Technically speaking, most Indian undergraduate students study in private colleges; perhaps 95% of these institutions are managed by private agencies such as religious organizations, cultural agencies, philanthropic groups, and others. Many, however, receive significant funds from government sources. These colleges are called “aided” institutions. Other colleges may receive no funding from government. These include many medical colleges (medicine is an undergraduate subject in India). Almost all are affiliated to universities.

A small number of private universities have been approved by state or central government authorities to offer degrees. These institutions do not receive any government funding and rely on tuition and in some cases philanthropic donations for funding. In addition, there are private, specialized, post-secondary institutions, mainly business schools. Some have degree-awarding authority while others offer only certificates because they lack government degree-granting approval. Almost all are financed by tuition payments.

Several of the older private universities have achieved considerable respect. The Birla Institute of Technology and Science, established in 1929 and upgraded to “deemed university” status in 1964, is one of the top institutions in the country. Manipal University,

founded in 1953 as a medical school, now has 24 colleges and 80,000 students in many disciplines and branches in Nepal, Malaysia, Dubai, and the Caribbean. Several of India's large corporations are in the process of starting universities, among them Reliance Industries, Mahindra and Mahindra, and the Vedanta Group. They are stimulated, among other things, by a recognition that many of India's existing universities are of low quality.

The growth of the private sector in India has been dramatic. Currently, 43% of the institutions and 30% of student enrolments are in private unaided institutions (Agarwal 2009, p. 70). While accurate statistics are unavailable, the large majority of these institutions are for-profit or quasi-for-profit, and many are family owned.

The expansion of the private sector has been facilitated by the complex, often dysfunctional regulatory framework for higher education in India. The state governments, along with central authorities, have the power to recognize colleges and universities. For example, in 2002, the state of Chhattisgarh, in a less-developed part of India, suddenly passed legislation for the recognition of private universities; 134 quickly applied and 97 were approved. Most of these were not located within the state but were in all parts of India. Some other states also recognized new private institutions. The University Grants Commission, seeing this anarchic situation, stepped in with new regulations, and after considerable dispute, the Indian Supreme Court recognized the authority of the University Grants Commission over the state governments in 2004. This example illustrates the complexity and the lack of overall direction relating to aspects of higher education policymaking in India.

Financial and ethical lapses can be seen in some of the new private institutions. Enforcement of standards is lax and regulatory frameworks inadequate—leaving room for such problems as charging high fees for admission, a practice called “capitation fees” (substantial fees charged at the time of matriculation), tuition fees higher than those allowed by regulations, corrupt practices in admissions, hiring, and the award of degrees, and others. These issues have tarnished the reputation of the private sector (Gupta 2008).

Private higher education in China and India is expanding. It is already a significant part of the higher education system, and its expansion will continue for a simple reason: the public sector is simply unable to provide the financial resources needed to provide the access demanded by growing populations. It is likely that the private sector will continue to function mainly at the bottom of the academic hierarchy, will be largely vocational in nature, and, as the economists say, will be mainly “demand absorbing”. Both countries face a significant challenge to create a stable and transparent regulatory framework that provides both ground rules for the private sector and procedures for quality assurance and financial accountability. Questions such as the role of the for-profit sector and whether foreign private providers can link with local private universities and colleges remain mainly unanswered.

The future

China and India are already major global forces in higher education (Altbach 2007). As they move toward international norms of access to higher education, China and India could together be expected to account for over half the global increase in student numbers. This will mean a dramatic expansion in the academic profession, as well as the need for more laboratory equipment and facilities, advanced computers, and other infrastructure. Some of the demand can be met internally, but it is likely that China and India will look abroad as well. Part of the expansion will be at the level of advanced graduate training. Both

countries now have inadequate capacity for producing master's and doctoral degrees. The cost of adding facilities is high. Both countries will be required to provide significant additional financial support for higher education over the coming decades.

Part of the expansion will depend on the continued growth of the private sector and on distance education. The countries have yet to fully integrate the private higher education sector into the higher education system or to create appropriate regulatory and quality assurance frameworks for the private sector. Some ambivalence about the private sector continues. In the coming years the private sector must be integrated into the mainstream if expansion is to be fully accomplished.

China and India will play a major role in global higher education. These two countries are likely to continue to send large numbers of students abroad for advanced study and are likely to account for more than one-third of the total worldwide overseas student population. It is quite likely that large numbers of Chinese and Indian graduates will remain abroad, although the proportions returning home will probably increase substantially, given better opportunities for positions at home. Over the past several decades, about 80% of graduates from the two countries have not returned home (Agarwal 2009). That percentage is likely to drop substantially, although the proportion returning will depend on salaries and working conditions at home. China, especially, has been creating opportunities in its universities for foreign-trained graduates.

Both countries could increasingly become hosts for students from abroad. To attract international students, China is already initiating plans and achieving considerable success. Providing higher education institutions are upgraded, the Chinese and Indian economies rise in the world economy, and these countries are seen as academic centres, students from abroad will be attracted. The largest numbers could be expected to come from East and Southeast Asia in the case of China, and South Asia in the case of India.

China and India may turn into major markets for higher education initiatives from abroad. As of 2009, both countries are considering a philosophy concerning foreign educational providers and are implementing regulatory frameworks to permit foreign involvement. Expansion requirements and efforts to improve quality can both benefit from international participation, although each country would need to develop a nationally beneficial policy framework for working with foreign providers. The issues are complex (see also McBurnie and Ziguras 2009; Knight 2008, OECD 2007a).

Will China and India emerge as "research superpowers" and develop world-class research universities in the coming decades? It is quite likely that China will have considerable success in building internationally competitive research universities. The universities developed with assistance from the 985 and 211 projects are making major progress. Continued development requires sustained support. A few globally competitive research universities do not prove that China will become a research superpower, but it will likely join the ranks of the major research-producing countries. Its top universities are likely to be among the key research institutions in the world in the coming two decades if current trends continue. It is much less likely that India will achieve this level of success. Its current top institutions, the Indian Institutes of Technology and a few others, are too small and specialized to become world-class research universities, and current plans do not show that India is developing a realistic strategy. Despite the use of English as the main academic language and the existence in India of many extraordinarily well-trained and bright scholars and scientists, it seems unlikely that India will have internationally competitive research universities in the coming several decades.

A complex, diversified higher education system that includes some world-class universities is needed for the future economic development of China and India as both

countries build more sophisticated economies and require greater numbers of highly educated personnel and research. Future expansion of numbers and institutions can be anticipated. Qualitative improvement is likely as well, but less assured. It is clear that higher education in China and India will involve a significant impact both within these key countries and on the global higher education system.

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References

- Agarwal, P. (2006). Higher education services and trade liberalization. In R. Chanda (Ed.), *Trade in services and India: Prospects and strategies* (pp. 299–358). New Delhi: Wiley-India.
- Agarwal, P. (2008). India in the context of international student circulation: Status and prospects. In H. de Wit, et al. (Eds.), *The dynamics of international student circulation in a global context* (pp. 83–112). Rotterdam: Sense.
- Agarwal, P. (2009). *Indian higher education: Envisioning the future*. New Delhi: Sage.
- Altbach, P. G. (2005). The private higher education revolution: An introduction. In P. G. Altbach & D. C. Levy (Eds.), *Private higher education: A global revolution, 1–13*. Rotterdam, The Netherlands: Sense Publishers.
- Altbach, P. G. (2006). The foreign student dilemma. In P. G. Altbach (Ed.), *Comparative higher education* (pp. 225–248). Boston College, Chestnut Hill, MA: Center for International Higher Education.
- Altbach, P. G. (2007). *Fostering Asia's brightest* (pp. 53–57). January-February: Far Eastern Economic Review.
- Altbach, P. G., & Balán, J. (Eds.). (2007). *World class worldwide: Transforming research universities in Asia and Latin America*. Baltimore: Johns Hopkins University Press.
- Ben-David, J., & Zloczower, A. (1962). Universities and academic system in modern societies. *European Journal of Sociology*, 3(1), 41–82.
- Chen, X. (2003). The academic profession in China. In P. G. Altbach (Ed.), *The decline of the Guru: The academic profession in developing and middle-income countries* (pp. 107–135). New York: Palgrave-Macmillan.
- China. Ministry of Education. (2007). *National statistical gazette of educational development*. Beijing: Ministry of Education.
- Fazackerley, A. (2007). *British universities in China*. London: Agora: The Forum for Culture and Education.
- Gupta, A. (2008). Judicial interventions and private higher education in India. In A. Gupta, D. C. Levy, & K. B. Powar (Eds.), *Private higher education: Global trends and Indian perspectives* (pp. 239–253). Delhi: Shipra.
- Gupta, A., Levy, D. C., & Powar, K. B. (Eds.). (2008). *Private higher education: Global trends and Indian perspectives*. Delhi: Shipra.
- Hayhoe, R. (1999). *China's universities, 1895–1995: A century of cultural conflict*. University of Hong Kong, Hong Kong: Comparative Education Research Centre.
- He, Q. (2002). Academic freedom in China. *Academe* (May-June).
- Helms, R. M. (2008). *Transnational education in China: Key challenges, critical issues and strategies for success*. London: Observatory on Borderless Higher Education.
- India. Ministry of Human Resource Development. (2009). *India: UNESCO Country Report*. New Delhi: Ministry of Human Resource Development.
- Indiresan, P. V. (2007). Prospects for world-class research universities in India. In P. G. Altbach & J. Balán (Eds.), *World class worldwide: Transforming research universities in Asia and Latin America* (pp. 95–121). Baltimore: Johns Hopkins University Press.
- Jayaram, N. (2003). The fall of the Guru: The decline of the academic profession in India. In P. G. Altbach (Ed.), *The decline of the Guru: The academic profession in developing and middle-income countries* (pp. 199–230). New York: Palgrave-Macmillan.
- Jayaram, N. (2004). Higher education in India: Massification and change. In P. G. Altbach & T. Umakoshi (Eds.), *Asian universities: Historical perspectives and contemporary challenges* (pp. 85–114). Baltimore, MD: Johns Hopkins University Press.

- Jayaram, N. (2007). Beyond retailing knowledge: Prospects for research-oriented universities in India. In P. G. Altbach & J. Balán (Eds.), *World class worldwide: Transforming research universities in Asia and Latin America* (pp. 70–94). Baltimore: Johns Hopkins University Press.
- Jha, A. (2009). Abysmal global ranking of India's best university. *Education World*, 64–72.
- Kapur, D., & Crowley, M. (2008). *Beyond the ABCs: Higher education and developing countries. Working paper number 139*. Washington, DC: Center for Global Development.
- Kaul, J. N. (1974). *Higher education in India, 1951–1971: Two decades of planned drift*. Simla: Indian Institute of Advanced Study.
- Knight, J. (2008). *Higher education in turmoil: The changing world of internationalization*. Rotterdam, Netherlands: Sense Publishers.
- Li, Y., Whalley, J., Zhang, S., & Zhao, X. (2008). *The higher educational transformation of China and its global implications. Working Paper 13849*. Cambridge, MA: National Bureau of Economic Research.
- Liu, N. C. (2007). Research universities in China: Differentiation, classification, and future world-class status. In P. G. Altbach & J. Balán (Eds.), *World class worldwide: Transforming research universities in Asia and Latin America* (pp. 54–69). Baltimore: Johns Hopkins University Press.
- Ma, W. (2007). The flagship university and China's economic reform. In P. G. Altbach & J. Balán (Eds.), *World class worldwide: Transforming research universities in Asia and Latin America* (pp. 31–53). Baltimore: Johns Hopkins University Press.
- Mahajan, N. (2007). *The cream of India's colleges turns sour* (pp. 62–65). January–February: Far Eastern Economic Review.
- Manmohan: We are destined to become knowledge superpower (2008, December 20). *The Hindu*, Chennai, India.
- McBurnie, G., & Ziguas, C. (2009). *Transnational education: Issues and trends in offshore higher education*. London: Taylor and Francis.
- Min, W. (2004). Chinese higher education: The legacy of the past and the context of the future. In P. G. Altbach & T. Umakoshi (Eds.), *Asian universities: Historical perspectives and contemporary challenges* (pp. 53–84). Baltimore, MD: Johns Hopkins University Press.
- OECD. (2007a). *Cross-border tertiary education: A way towards capacity development*. Paris: OECD.
- OECD. (2007b). *Thematic review of tertiary education: China*. Paris: OECD.
- Rumble, L. E., Pacheco, I. F., & Altbach, P. G. (2008). *International comparison of academic salaries: An exploratory study*. Chestnut Hill, MA: Boston College Center for International Higher Education.
- Shanghai Jiao Tong University Institute of Higher Education (SJTUIHE). (2008). *Academic Ranking of World Universities*, <http://ed.sjtu.edu.cn/ranking.htm>.
- Surowiecki, J. (2007). India's skills famine. *The New Yorker*, April 16, p. 54.
- Tilak, J. B. G. (2007). Knowledge commission and higher education. *Economic and Political Weekly*, 2007, 630–632.
- Trow, M. (2006). Reflections on the transition from elite to mass to universal access: Forms and phases of higher education in modern societies since World War II. In J. J. F. Forest & P. G. Altbach (Eds.), *International handbook of higher education* (Vol. 1, pp. 329–346). Dordrecht: Springer.
- World Bank. (2008). *World development indicators database*, revised 10 September 2008. <http://siteresources.worldbank.org/DATASTATISTICS/Resources/POP.pdf>.
- World university rankings. (2008). *The Times Higher Education*. London, UK. <http://www.timeshighereducation.co.uk>.

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