Expanding Higher Education: China's Precarious Balance

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Abstract

China implemented an unprecedented expansion of higher education along with excellence initiatives that propelled more universities into the global rankings. Yet, the international influence of the higher education system pales in comparison to its economy. This paper argues that governance reforms in higher education only partially address the increasingly complex social and geopolitical realities. With more institutional and professional autonomy, universities and the academic research enterprise would be better placed and more inclined to find innovative solutions to urgent problems of domestic and global sustainability.

Keywords: mass higher education; governance reforms; excellence initiatives; academic research enterprise; China

Higher Education in Strong, State-driven Economies

Regardless of the country and the nature of the state, refining higher education systems in the 21st-century era of economic globalization and technological acceleration has meant expanded enrolments and institutional differentiation as well privatization, internationalization, quality assurance, accountability and more institutional autonomy, among other alterations and enhancement.[1] How higher education systems respond also depends on national differences.[2] Some research emphasizes global market forces and a cult of efficiency in the nature of responses by colleges and universities.[3] Other research views the response of higher education systems as driven by global isomorphism or world polity.[4] Still other research, especially about China, points to the ubiquitous role of the state in shaping the response to global forces.[5]

To be sure, multiple forces and factors shape and limit institutional and system-wide responses. In much of East Asia, the state plays the dominant role

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1 Carnoy et al. 2013; Slaughter and Rhoades 2009; Trow 2007.
2 Altbach 2011.
3 Marginson 2013.
4 Ramirez and Christensen 2013.
5 Huang 2015.

© SOAS University of London, 2020 doi:10.1017/S0305741020000995 First published online 14 December 2020

https://doi.org/10.1017/S0305741020000995 Published online by Cambridge University Press

in how top-tier institutions act.[6] Policies that promote wide-scale reform are steered by excellence initiatives and financial incentives. In many cases, these incentives exert control over how universities react to global competition driven by world rankings.[7] In making the transition from elite to mass higher education, states also mediate between competing interests and demands from different sectors of the population. Variations in state styles of mediation influence the extent of innovation in the race for excellence, variously defined by relative improvements in benchmark indicators of quality in areas such as student learning, research publications, commercialization of research output and social impact.[8] This is useful to keep in mind when examining state-led initiatives for excellence in Chinese higher education during massification.

In an era of globalization, universities have become far more than institutions for the creation and dissemination of knowledge. They have become instruments of national competition as well as a powerful force for international integration and geopolitical stability through shared human understanding.[9] As massification takes hold, research universities lead their higher education system by providing evidence-based solutions that shape policies for economic growth and social equity. China's party-state recognizes this and expects universities to anchor globalization primarily for the benefit of economic development. State narratives also include the goals of nation building, political stability, civilizational rejuvenation and national identity. Research universities are instruments of the party-state used to rebalance the economy by addressing problems of quality and innovation. In the year of Covid-19, this also means integrating 8.7 million college and university graduates into a hard-hit labour market.[10] Of course, states that drive university development are more successful when they can appeal to the core values of the academic profession.[11] Despite internationalization, Confucian values associated with the pursuit of knowledge for social and national interests still weigh heavily, as academic pursuits follow a desire and responsibility to support the state.[12]

Authoritarian states also make use of leveraged incentives for upgrading universities through partnerships with the private sector, especially as universities deepen their international engagement for achieving higher standards through professional management and academic accountability. For developing countries like Brazil, South Africa and China, the level of quality and efficiency at second- and third-tier institutions remains a serious concern, even as their top-tier universities continue to excel.[13] With the exception of China's relatively new Westlake

6 Shin, Postiglione and Huang 2015.
7 Postiglione 2015.
8 Salmi 2009.
9 Levin 2006.
10 Cai and Yan 2015; Crossley 2020.
11 Teichler, Cummings and Arimoto 2013; Cummings and Teichler 2015; Huang, Finkelstein and Rostan 2014.
12 Zha and Hayhoe 2014; Han and Xu 2019.
13 Schwartzman, Pinheiro and Pillay 2015.

https://doi.org/10.1017/S0305741020000995 Published online by Cambridge University Press

University (*Xihu daxue* 西湖大学), its private sector of colleges and universities are generally in the lower tiers, even though the best among them provide quality programmes that are well-geared towards graduate employment.[14]

Higher education systems during massification become differentiated and stratified.[15] Institutions in the top, middle and lower tiers differ in their orientation towards teaching, research (basic, applied, developmental) and service to the communities they serve.[16] Top-tier research universities have more resources for creating new knowledge, and they are ahead in developing new modes of instructional delivery, curriculum innovation and partnership with industry, business, commerce, foundations, development agencies and cross-border educational institutions.

China's higher education system has to meet increasing domestic demands during its transition from elite to mass education, including the demands of rural households for their children to access higher education; the demands of urban, middle-class families for status culture to be conferred on their children by name-brand universities; the demands of industrial enterprises for graduates with skills to drive productivity and innovation; and the demands of the state for social stability, national unity and global civilizational standing.[17]

The student profile of top-tier research universities differs across countries, but recruitment generally favours mid- to upper-social strata more than poor and marginalized communities. Countries like Brazil and India, more than Russia and China, emphasize inclusion.[18] Although top-tier research universities veer towards recruitment of students from well-off families, their institutional missions espouse upholding values of equity and social justice. Top-tier universities tend to accentuate a socially uniform student cohort. Selectivity becomes an indicator of the capacity to attract wealthy high fee-paying students, and global rankings tend to promulgate deeper inequalities.[19] Preferential admission and financial assistance are the ways by which universities redress problems of equity.[20] China maintains a longstanding preferential policy in higher education for ethnic minority students, most of whom attend second- and third-tier institutions.[21] It has also instituted quotas to reverse the rapid decline of students from impoverished rural areas in top-tier universities.[22] The government frequently cautions against increasing college tuition fees and charging extra fees.[23] The State Council instituted a five-year prohibition in 2007 on raising tuition and accommodation

14 Normile 2018.
15 Hayhoe 1989; 1996; Yang 2017.
16 Cao and Levy 2015, 14–15.
17 Postiglione 2011; Zha 2009.
18 Carnoy et al. 2013.
19 Hazelkorn 2014; Bastedo and Bowman 2011.
20 Hawkins, Jacob and Li 2009.
21 Postiglione 2009a; 2009b; 2010b.
22 MOE 2017.
23 MOE et al. 2005; 2006; 2012.

https://doi.org/10.1017/S0305741020000995 Published online by Cambridge University Press

fees.[24] Tuition fees for public universities were 4,000 yuan in 1999, 5,000 yuan in 2001 and, since 2005, have remained at 6,000 yuan.[25]

Excellence initiatives acknowledge strong state intervention and consist of massive doses of extra funding to lift the performance of flagship universities and establish centres of interdisciplinary research.[26] China instituted incentives for high-risk basic research and finding interdisciplinary solutions to challenges set out in national five-year development plans. Excellence initiatives can also have implications for teaching and learning quality, curriculum diversification and measures that improve graduate employment. Aside from China, several governments (Denmark, France, Germany, Japan, Russia, South Korea and Spain) have launched major excellence initiatives.[27] Their intent is essentially about improving external efficiency and boosting national competitiveness. The case of China is illustrative, and this paper attempts to address the question: what are the main features and key challenges of the reforms put in place by China to strengthen the place and performance of its universities in the era of massification in higher education?

The Race: Expansion and Excellence

In the People's Republic of China, the central government has always been the primary force behind the reform of higher education, including major excellence initiatives. After 1949, higher education operated under a centrally planned economy which set targets and controlled resources. Soviet influence in the early 1950s brought universities under a Ministry of Higher Education that separated research institutes from teaching institutions and followed a nationally unified instruction system. Universities periodically became launching pads or objects of destructive political struggles.[28] It was not until after Deng Xiaoping 邓小平 launched the economic reform and opening-up to the outside world at the end of 1978 that academic standards were re-emphasized as the state moved from a hard to a softer authoritarianism.[29] Residue from the pre-1979 era left higher education with excessive departmentalization, segmentation and over specialization. Party-state control began to permit market forces to play a stronger role, and universities gained limited autonomy in admissions and curriculum matters.[30]

As economic reforms took hold, enrolment rates grew from 2 per cent in 1981 to 8 per cent in 1994. From 2000 to 2015, the number of universities grew from 1,400 to 2,553. The 2016 enrolment rate hit 42.7 per cent, a 12.7 per cent increase from 2012. Among urban residents of major cities, China approached universal

24 State Council 2007.
25 Li, Mei, and Yang 2013.
26 OECD 2013.
27 Salmi 2016.
28 Sautman 1991; Pepper 2000.
29 Postiglione 2010a.
30 Postiglione 2002; 2005.

https://doi.org/10.1017/S0305741020000995 Published online by Cambridge University Press

access to higher education. In 2019, the national enrolment rate reached 51.6 per cent. This contrasts sharply with 0.26 per cent in 1949, and 1.55 per cent in 1978. China's postgraduates numbered 667,100 in 2016, an increase of 22,000 on the previous year. Colleges and universities employ 2.4 million academic staff (including 1.6 million full-timers). Recruitment into higher education draws on 32.4 million secondary school students from across 229,800 schools.[31] In 2019, China outstripped other countries, with 40.02 million university students in 2,688 colleges. In 2020, 8.7 million graduated with a bachelor's degree. As of June 2020, 26 per cent were still seeking employment. The number of graduates is nearly ten times the figure in 1997 and more than double the number in the US.

The government introduced its first excellence initiative, known as the "211" project, in 1995. This programme provided extra resources to those universities that could show promise in attaining a higher standard in academic and scientific disciplines and develop the human resources needed to support the national strategy for economic and social development. Such resources included a major upgrading of university infrastructure with funding of 37 billion yuan from both central (19 billion yuan) and local governments, as well as various grants between 1995 and 2005. Priority was given to key disciplinary areas (about 600) in the first five years for teaching, research and managerial efficiency. In the second five years, the number of 211 universities increased from 100 to 110, with 777 disciplinary areas.[32] The result of the 211 project was an identification of key universities, disciplinary construction as the core of university development, the sharing of resources across institutions, and better planning and management. This occurred while China was in the process of evolving a framework for its higher education system. That framework moved towards the transfer of authority over many universities from central government ministries to provincial governments as well as the merging of universities to achieve economies of scale.

As the economy grew, the state launched a more far-reaching excellence initiative. In front of an audience that included world-class university presidents and other international guests (including the author) in May of 1998, President Jiang Zemin 江泽民 declared that China would establish world-class universities.[33] This become the basis for the "985" project. A select group of 39 universities received substantial funding from national and local governments, allocated in phases, for new research centres, campus facilities, international conferences, influential visiting scientists and world-renowned talent, and overseas academic events. The 985 project aimed to build centres of excellence within ten to twenty years and drive innovation by instituting personnel reform, improving internal management, combining talent training with scientific research, and building

31 Sun 2017; MOE 2019.
32 Project 211 Working Group 2007.
33 Huang 2015, 203–215; Postiglione 2015.

https://doi.org/10.1017/S0305741020000995 Published online by Cambridge University Press

academic platforms through disciplinary strengthening. From 1999 to 2007, the 39 selected universities received 30 billion yuan.[34]

As China inched closer to becoming the world's largest economy, it reverted to a hard authoritarianism and set forth a 2010 strategy to strengthen its universities and facilitate a national economic restructuring.[35] The third major excellence initiative, known as the "double first-class" (*shuangyiliu* 双一流), called for a series of world-class universities and disciplines with stronger performance management.[36] This initiative, costing over 100 billion yuan, is expected to address the "solidified status, redundant construction and lack of competition" in the wake of the 985 and 211 initiatives, so that by 2020, a number of universities and disciplines would reach the "world's very top tier" and even more will do so by 2030. By 2050, the aim is for the quantity and quality of top universities and disciplines to be among the front-runners of the world. Third-party assessment will monitor spending and performance.[37]

With these three major initiatives (211, 985 and double first-class), the government invested heavily in the elite institutions.[38] Several universities climbed the league tables by boosting their presence in global scientific publications.[39] Other ranking indicators such as funding from industry – primarily from state-owned enterprises – also uplifted their ranking. The Academic Ranking of World Universities (ARWU) indicates that the number of Chinese universities in the world's top 500 increased from 14 in 2003 to 22 in 2010 and 51 in 2018.[40] There are only three Chinese universities (not counting those in the Hong Kong Special Administrative Region) in the AWRU's top 100. Most universities trail far behind the front runners. The high number of scientific publications masks the low citation rate of articles by Chinese scientists (4 per cent compared to 30 per cent for the US), but that is changing quickly. From 2007 to 2017, Chinese scientists were cited 19 million times in *Web of Science*.[41] Although that is far behind the 66 million citations attained by US-based researchers, the pace is notable – a ten-year citation count that has increased by almost 30 per cent.

By the second decade of the 21st century, China's universities are virtually unrecognizable compared to their former selves. The general upward trajectory

34 "Jiaoyubu '985' shinian jianshe chengxiao" ("Project 985" ten-year result), http://www.moe.gov.cn/s78/A22/xwb_left/moe_843/201112/t20111230_128827.html. Accessed 1 June 2020.
35 Jacques 2009; Beardson 2013; Shambaugh 2016.
36 State Council 2015.
37 Ibid.
38 Yang 2017.
39 "New countries emerge as major players in scientific world." *The Royal Society*, 28 March 2011, https://royalsociety.org/news/2011/new-science-countries/. Accessed 15 May 2020; "*Times Higher Education* world university rankings," http://www.timeshighereducation.co.uk/world-university-rankings/. Accessed 10 June 2018.
40 "Academic ranking of world universities." Shanghai Ranking, http://www.shanghairanking.com/. Accessed 2 December 2018.
41 Jia 2017; Horta and Shen 2020.

https://doi.org/10.1017/S0305741020000995 Published online by Cambridge University Press

is nothing less than impressive, including the increasing number of academic papers, patents, investments and advances in fields like biotech and computer science, to name just a few. Universities have helped China become a global leader in green technology, super computers (with the world's fastest computer in 2017), digital payments systems and teleporting subatomic particles into outer space. That very rapid rise has been accompanied by a number of problems including widespread plagiarism and a research culture where personal ties influence the awarding of research grants. The academic scientific research enterprise receives very generous support from the government but has to endure a weighty bureaucracy.

Experimentation, Liberal Studies and Institutional Differentiation

Despite China having several world-ranked universities, it is common to hear that its universities produce fewer independent thinkers than their international competitors.[42] As China's labour costs increase, maintaining the country's economic ascent depends on boosting innovation and the quality of its human resources. Generating new products and services will require universities to foster creative talent as well as carry out cutting-edge research. Access to higher education has expanded but the key challenge is to enliven the academic culture, assess and raise quality, and better align university curricula with the changing workplace.

While it is not in the nature of the Chinese system to set autonomy as a high priority, the need to promote independent thinking is widely recognized. Former premiers Zhu Rongji 朱镕基 and Wen Jiabao 温家宝 have acknowledged that maintaining economic competiveness depends on it.[43] Qian Xuesen 钱学森, the father of Chinese rocket science, saw universities as failing to encourage creativity, multidisciplinary breadth and innovative thinking: "none of our institutions of higher learning is running in the right direction of cultivating excellent talent and is innovative enough."[44] To address this issue, flagship universities have introduced initiatives in their common core curricula. Peking University's Yuanpei College (*Yuanpei xueyuan* 元培学院) hosts an experimental undergraduate programme to foster creativity, multidisciplinary thinking and leadership. Stanford University has established a centre at Peking University to expand its role in global education and research, including social science programmes which share ideas about social change. Tsinghua University's Xinya College (*Xinya shuyuan* 新亚书院), a residential college which aims to reform the undergraduate curriculum, intensifies students' engagement in learning and group problem solving, and works towards improving the quality of communication

42 Abrami, Kirby and McFarlan 2014.
43 Yeung 2011.
44 Zhao and Zhu 2000, 115–125. I heard the same sentiment from the business community when I facilitated a discussion in Hong Kong with Alibaba's Jack Ma for Clinton Global, Hong Kong, 3 December 2008.

https://doi.org/10.1017/S0305741020000995 Published online by Cambridge University Press

between students and teachers.[45] The Schwarzman Scholars Program at Tsinghua University brings future Chinese leaders together with their counterparts from all over the world as part of a master's degree programme. Tsinghua University has also established a campus in Seattle. Branded as the Global Innovation Exchange, it delivers programmes that aim to foster innovative research in new technologies.[46] Other top-tier universities are experimenting with models of learning that break away from the lecture, textbook, memorization and exam cycle. Nevertheless, below the top tiers, most colleges and universities still operate with fewer resources, less qualified academic staff and less attention from the central government. A president of a university in a poor province in the west of China remarked that the university's funding from the central government from 1949 to 2012 was equal to three years of his salary at top-ranked Zhejiang University.[47]

Massification is untenable without private (*minban* 民办) colleges and universities.[48] There are now hundreds of these institutions to meet the growing demand, relieve financial pressure on the government and provide opportunities for those who can pay for it. Independent colleges (*duli xueyuan* 独立学院), set up and run by regular colleges and universities, have absorbed some of the demand. Over 300 have enrolled some 400,000 undergraduates. The number of students in private higher education increased from 5.3 million in 2012 to 6.3 million in 2016 (22 per cent of all students in higher education) and is expected to reach 8 million in 2021 (24 per cent of all students).[49] The revenue produced by private higher education increased from 69.6 billion yuan in 2012 to 95.4 yuan in 2016 – 9.6 per cent of the total revenue for Chinese higher education – and this figure is expected to increase to 139 billion yuan. By 2020, more Chinese will have a college education than the entire workforce of the US.[50]

Reform of University Governance

The system and institutions of higher education are managed through dual leadership, Party schools and leadership appointments. The dual-governance structure, referred to in Article 13 of the Higher Education Law of 1998, is the "presidential responsibility system under the leadership of the Party committee" (*dangwei lingdaoxiade xiaozhang fuzezhi* 党委领导下的校长负责制). A president

45 Hennock 2010.
46 Postiglione 2016.
47 Zheng 2016.
48 Lo 2017.
49 Yu 2018.
50 "China's new national plan for medium- and long-term education reform and development (2010–2020)," http://www.moe.edu.cn/publicfiles/business/htmlfiles/moe/s3501/index.html. Accessed 30 June 2014.

https://doi.org/10.1017/S0305741020000995 Published online by Cambridge University Press

and Party committee chair the administration system of public universities. In Article 44, the president and the administrative system have "overall responsibility for the institution's teaching, research and administrative affairs."[51] The Party committee (referred to in English as the University Council) exercises unified leadership and supports the president who ensures that the university operates in line with Party principles and policies.

The relative influence of the Party secretary and president shifts with the individual profile and power that each person brings to the post, or by changes in the orientation of Party central through its policies and opinions. The Party secretary and president are similar to a board chairman and CEO of a Western corporation in that there are ways to ensure collaboration but also cases of conflicts between them. Conflicts are settled internally or by career mobility. The power of the Party secretary has been in ascendance. In December 2016, President Xi reaffirmed the claim that universities "must adhere to correct political ideologies" and become "strongholds that adhere to the Party's leadership."[52]

The governance of Chinese higher education has moved from direct control to indirect supervision and from an interventionist to an evaluative approach. The instruments of governance are legal, financial and informational. Laws reduce capriciousness and policies influence particular practices. The state is no longer the only source of finance, opening up the potential of universities to generate revenue from other sources. While global isomorphism pushes universities towards shared governance, performance funding and knowledge exchange, it is a challenge to keep them mission focused, market smart and margin conscious. Autonomy is more evident in areas such as fund raising, student selection and the disciplinary and curricular structures. The party-state remains the essential power and authority in university governance. It has also adapted to the acceleration of technology by using it in the supervision of finance and management, admissions, curriculum and ideological supervision.

Party schools and administration academies are sites for preparing senior managers. They confer status and certification as well as provide social and political capital. There is a close relationship between university senior management and the Ministry of Education (MOE) or provincial equivalents (and, in some cases, other ministries). University heads have a civil service rank equivalent to a deputy head of the civil service branch. The governance issue is more than merely granting greater autonomy to universities. Universities must be ready and willing to take greater responsibility for their own governance. Some university heads are

51 Higher Education Law of the People's Republic of China, adopted at the Fourth Session of the Standing Committee of the Ninth National People's Congress on 29 August 1998, promulgated by Order No. 7 of the President of the People's Republic of China on 29 August 1998 and effective as of 1 January 1999, http://old.moe.gov.cn//publicfiles/business/htmlfiles/moe/moe_619/200407/1311.html. Accessed 25 April 2020.

52 "Xi Jinping: basi xiangzheng zhi gongzuo guanchuan jiaoyuxue quanguocheng" (Xi Jinping: put ideological and political work through the entire process of teaching and learning). *Xinhuanet*, 8 December 2016, http://www.xinhuanet.com//politics/2016-12/08/c_1120082577.htm. Accessed 25 June 2019.

https://doi.org/10.1017/S0305741020000995 Published online by Cambridge University Press

as interested in retaining their civil service rank as they are in making universities more autonomous. President and Party posts at top-tier universities have become more professionalized. Some presidents and Party secretaries earned their doctorates in the US or UK, some even remain overseas for work experience before returning.

Governance prioritizes political socialization and "political discipline" to the detriment of academic freedom, thereby causing a role split among academic staff and students.[53] This is of direct relevance to economic restructuring through innovation as well as to aligning with the values of mainstream international universities. In 2009, China's C9 group of top-tier universities – the Chinese equivalent of the US Ivy League or the UK Russell Group – included Peking, Tsinghua, Fudan, Zhejiang, Nanjing, Shanghai Jiaotong and Xian Jiaotong universities, plus the China University of Science and Technology and the Harbin Institute of Technology. In October 2013, the heads of the C9 group signed a statement that commits to upholding academic freedom. In 2019, however, Fudan University amended its byelaws by removing "academic independence and freedom of thought" and adding language that pledges the school to follow the leadership of the Party. Other top universities followed suit. Those affiliated with NYU Shanghai and Duke Kunshan, namely East China Normal University and Wuhan University, did not revise their charters, presumably to avoid controversy. In May 2013, the government ordered universities not to discuss seven topics (*qibujiang* 七不讲): universal values, press freedom, civil society, civil rights, the Communist Party's historical mistakes, crony capitalism and judicial independence.[54] The second international survey of the academic profession data indicated that only about one-fifth of Chinese academics think their university administration does not support academic freedom.[55]

It is not surprising that an authoritarian system would impose such restrictions and that academics would find ways to handle themselves in an atmosphere of increased internationalization with surveillance to ensure the protection of the state's educational sovereignty. The "Outline of China's national plan for medium and long-term education reform and development" for 2010–2020 calls for the government to release its monopolistic control on universities and permit autonomy by allowing presidents and faculty to run their institutions.[56] While the government will continue to provide funding for a portion of state universities and provide policy frameworks at the macroscopic level, institutions will have to take a greater role in governing themselves than in the past.

53 Jarvis and Mok 2019; Du 2018.
54 Li, Raymond 2013.
55 Postiglione and Wang 2011.
56 "Outline of China's national plan for medium and long-term education reform and development (2010–2020)," https://internationaleducation.gov.au/News/newsarchive/2010/Documents/China_Education_Reform_pdf.pdf. Accessed 20 December 2013.

https://doi.org/10.1017/S0305741020000995 Published online by Cambridge University Press

International Cooperation and Sovereignty

China's universities have to juggle limited autonomy with internationalization and the government's concern about the protection of educational sovereignty. There are hundreds of Sino-foreign joint ventures in higher education on Chinese soil. At least two Chinese universities have campuses overseas, one in Malaysia and one in the US. Only the US and UK surpass China in their number of foreign students. The number of Chinese students leaving for overseas study still tops that of any other country. Many do not return, especially those earning doctorates, but the proportion of returnees completing a master's degree overseas has risen as China's economy has opened new job opportunities and as overseas job opportunities in the US have become less accessible. The Covid-19 era and the continued deterioration in Sino-American relations have not only slowed economic cooperation but also put Sino-US academic and educational exchanges at risk, in what David Shambaugh has characterized as "a race to the bottom."[57]

The 2003 "Regulations on Sino-foreign cooperation" increased the number of approved partnerships.[58] The MOE records each agreement and studies the results in order to evaluate the quality of any programme. By 2013, there were 1,060 approved Sino-foreign joint ventures in higher education, involving 450,000 students.[59] In 2018, the MOE terminated more than 200 Sino-foreign cooperative education programmes and jointly managed institutions in what the ministry framed as a move to improve quality and regulatory control.[60]

Interest continues regarding the question of whether foreign-partnership campuses have any significant impact on the higher education system. The hundreds of partnerships constituted a laboratory for innovative formats in higher learning. The jury remains out on the long-term sustainability of Sino-foreign campuses. Only a few of the partnerships are full campuses. Johns Hopkins University School of Advanced International Studies was the first major university to establish an identity on the campus of Nanjing University in 1986. The University of Michigan runs an engineering campus at Shanghai Jiaotong University. Several universities have established campuses including Nottingham University in Ningbo (partnered with Ningbo University), Liverpool University (partnered with Xian Jiaotong University) in Suzhou, New York University in Shanghai (partnered with East China Normal University), Kean University (hosted by Wenzhou University) in Wenzhou, and Duke University in Kunshan (partnered with Wuhan University).[61] Three of Hong Kong's research universities have established mainland base campuses in the nearby cities of Shenzhen, Zhuhai and Guangzhou. No doubt both host and guest universities have learned a

57 Shambaugh 2019.
58 "Zhonghua renmin gongheguo zhongwai hezuo banxue tiaoli" (Regulations of the People's Republic of China on Chinese–foreign cooperation in running schools), 1 March 2003, http://www.moe.gov.cn/jyb_xxgk/gk_gbgg/moe_0/moe_9/moe_35/tnull_96.html. Accessed 20 February 2018.
59 Lin 2014.
60 Redden 2018.
61 Redden 2014.

https://doi.org/10.1017/S0305741020000995 Published online by Cambridge University Press

great deal from running a partnered university.[62] These campuses are popular with middle-class parents because they offer the cachet of a foreign academic degree without the added costs, security concerns and separation from the domestic labour market.

The Sino-foreign joint ventures in higher education prompted stern warnings. A former minister of education remarked: "Tough tasks lie ahead for China to safeguard its educational sovereignty as it involves our fundamental political, cultural and economic interests and every sovereign nation must protect them from being harmed."[63] An influential professor cautioned against majority ownership by foreign entities because it would mean an "infiltration of Western values and cultures at odds with current Chinese circumstances."[64] A former deputy director of the Shanghai Education Commission directed that it was necessary to "make sure China's sovereignty and public interests are not harmed at any time."[65] An MOE official pointed to the size of China's education market and instructed that "we must safeguard China's educational sovereignty, protect national security, and guide such programs in the right direction."[66] The debate about liberal studies and science education is inseparable from the debate about the establishment of universities with Chinese characteristics. The issue remains embedded within an unambiguous paradox, namely the seeming incompatibility within the university system of internationalization, institutional autonomy and educational sovereignty.

Nevertheless, Sino-foreign universities manage to secure a higher degree of institutional autonomy than do their Chinese counterparts. They must still adhere to regulations set out by provincial-level education bureaus, who exert control over student admissions and financial issues and require a great deal of reporting, more than would be the case at their home campuses. The US Congress asserted that American universities in China emphasize academic freedom but face internet censorship.[67]

Another initiative, the "thousand talents programme" (*qianren jihua* 千人计划, TTP hereafter), established in 2008, brought more than 7,000 top-level scientists to China over ten years. It became a victim of the pronouncement that it was a means to transfer sensitive technology. China sees the attack on the TTP as an effort to contain its progress in science and technology, business and manufacturing. The US television news programme, *60 Minutes*, revealed how over-zealous investigations by US authorities damaged the academic careers of innocent Chinese-American scholars.[68] China insists that the TTP was an initiative to

62 Wildavsky 2012.
63 Chen 2002, 4–7, cited in Pan 2009, 90.
64 Pan 2009.
65 Zhang 2009.
66 Li, Zhang 2009, 19.
67 United States Government Accounting Office 2016; Lloyd-Damnjanovic 2018.
68 "US fight against Chinese espionage ensnares innocent Americans." *CBS*, 26 August 2018, https://www.cbsnews.com/news/us-fight-against-china-espionage-ensnares-innocent-americans-60-minutes-bill-whitaker/. Accessed 7 October 2019.

https://doi.org/10.1017/S0305741020000995 Published online by Cambridge University Press

recruit top scientists, something that the US has always done.[69] After decades of goodwill in academic exchanges between China and the US, the Trump administration threatened to deny study visas to Chinese graduate students in STEM (science, technology, engineering, mathematics) and related fields, especially robotics, aviation and high-tech manufacturing. The university established by Trump himself did not enrol students from China and closed after multiple lawsuits.[70]

The New Abnormal: Acceleration and Obstacles

As China inches towards becoming the world's largest economy, there are indications of an economic slowdown that could affect the funding of excellence initiatives in higher education. The higher education system has more students than any other country, a larger budget for research and development than any country except the US, and several world-ranked universities, but as a whole it does poorly on quality indicators. The debate continues about how to build a unique Chinese model. There is a desire to elevate Chinese thinkers to arrest the lingering concern that university education has not been sufficiently shaped by indigenous ideas, especially ideas that discuss how to engage with a changing world.[71] These efforts to shape universities with Chinese indigenous ideas fall victim to the race for global rankings. Meanwhile, colleges and universities struggle with uninspiring teaching and media reports that too many students are asleep during lectures.[72] Students spend their final year of undergraduate study doing an internship or looking for employment.

To avoid the middle-income trap, the state expects higher education to sustain economic growth and ensure that graduates find rewarding careers.[73] Within a few decades, government policies evolved from a centrally planned system of job allocation for university graduates to an open-choice job market. Despite university students seeking internships or related work during their final year of study, about 20 per cent are unemployed upon graduation. That number shrinks to about 10 per cent within a few months of graduation. Households have become more sensitive to the costs and benefits of higher education for graduate employability.[74] To improve the match between higher education and the labour market, especially in second- and third-tier colleges and universities, the MOE has accelerated the reform of application-oriented bachelor degrees in about 600 provincial-level universities.

69 Zweig and Kang 2020.
70 Cassidy 2016.
71 For an interesting example of Chinese scholars indigenizing "globalization," see the section on "Spatial practice" in James McDougall's paper in this special issue. See also Gu 2014.
72 "Weishenme henduo daxuesheng shangke shuijiao, shi daxue laoshi jiangke buhao ma?" (Why are so many university students sleeping in the classroom? Do university teachers not teach well?). *Kuaibao*, 6 April 2018, https://kuaibao.qq.com/s/20180405A1B55P00?refer=spider. Accessed 22 March 2019.
73 MyCOS Research 2019.
74 Chan 2015.

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As two sources of growth – labour force expansion and heavy capital investment – continue to fade, the quality of universities must improve in order for innovation to contribute up to half of GDP growth by 2025. Even with multiple excellence initiatives, the challenge is formidable. University teaching must prepare more students to be able and willing to adapt the knowledge they acquire. Accelerated learning programmes need to drive engineering-based innovation across industries such as wind and solar power, pharmaceuticals, medical equipment, semi-conductor design, internet software, communication equipment, high-speed rail and airlines. University research must align closely with key sectors: advanced information technology, digital control machine tools and robotics, airplanes, ocean equipment and shipbuilding, rail transportation equipment, agricultural equipment, new materials, and biopharmaceuticals and medical equipment. China's science-based companies can only catch up with global competitors if they have access to a large portion of university graduates who can accelerate experimentation and the discovery of new products. Finally, it is not enough to address domestic demands to be a global leader in higher education: research universities must aim at solving global problems.

The state has been strategic in making investments in university research capacity. It permits many companies to compete in each sector. The best competitor in each sector attracts the most talented graduates and goes global with government backing. This system produced leading companies such as Alibaba, Tencent, Huawei, Baidu, Xiaomi and DJI, despite a censored internet. Amid such success, issues of intellectual property and the bending of global trade rules dog the government. It can do more to remove barriers for innovative start-ups for graduates. High value-added jobs for graduates have to balance the increasingly consumption-driven economy by strengthening the expanding service sector.

Despite the massive number of graduates in science and technology fields, many industries still struggle to find talented graduates. The "double first-class" initiative places science-based innovation as a top priority in building universities capable of discovery, invention and commercialization. The TTP initiative guaranteed professorships (with a relocation allowance of one million yuan), which attracted more than 4,000 returnees from 2009 to 2014 who had made significant contributions to industries such as biotechnology, clean energy and sustainable urbanization.[75]

The World Economic Forum reported that China produced 4.7 million STEM graduates in 2016, compared to 568,000 in the US.[76] Obstacles remain to improving global competitiveness, especially in basic research and the commercialization of research results. Investments in major initiatives have led to a rapid rise in

75 Welch and Zhang 2008. See also the European Union-funded "Thousand talents programme, studies and reports," http://chinainnovationfunding.eu/studies-reports-chinese-innovation-funding/. Accessed 14 July 2020.

76 WEF 2016.

https://doi.org/10.1017/S0305741020000995 Published online by Cambridge University Press

scientific publications, patents and a science-oriented workforce – but without the impressive breakthroughs and commercialization of results to match. According to McKinsey, "Chinese companies have less than one per cent of global revenue in branded pharmaceuticals, three per cent in biotech, three per cent in semiconductor design, and three per cent in specialty chemicals. And despite the quantity of patents and research papers, the quality of Chinese research still lags in terms of measures of innovation impact."[77] In the area of drug discovery, Chinese researchers wrote 17 per cent of all global life science journal articles and filed 10 per cent of patents, but produced only 2 per cent of new drugs. In artificial intelligence, Chinese scientists achieved significant progress but about 40 per cent of data scientists have less than five years of work experience, compared to over half of US data scientists, who have more than ten.[78] In 2017, China had fewer than 30 university AI research labs, less than enough to meet the talent needs of the industry. Scientists disproportionately specialize in some areas, creating a gap in others.[79] Higher requirements and keeping up with global developments will be difficult in the deteriorating environment of Sino-US relations.

The way that the state regulates universities is cumbersome for academics. Oversight is ineffective at discouraging fraudulent applications for research grants. Like elsewhere in the developed world, the "publish or perish" pressures have come to dominate the lives of many Chinese academics. This has made them choose projects that are attractive to publishers instead of innovators. There is a black market for papers and many instances of plagiarism and fabrication of research.[80] The government has taken this seriously and has announced a plan to reform research funding with multiple channels to review research grants and policies that remove obstacles to research productivity, quality assurance and international recognition.

Conclusion

Four decades after Deng Xiaoping crushed the hyper-politicization of universities, China has become a country of rising significance in higher education. Despite having more world-ranked universities and half of its relevant age group in higher education with further expansion planned, the higher education system is far less influential than the economy, even as the latter slows. The system is strong in scale but qualitatively weak. It does not have to be this way. Neighbouring countries with universities in the world's top 200 have

77 Woetzel et al. 2015.

78 "Sousuo moshi mianlin tianhua ban Baidu zongcai huan shuai shengji rengong zhimeng zhanlüe" (Ceiling hit by search model, Baidu uplifts AI strategy with new CEO). *21 shiji jingji bao dao*, 18 January 2017, http://epaper.21jingji.com/html/2017-01/18/content_54928.htm. Accessed 12 July 2018.

79 Barton et al. 2017.

80 "Looks good on paper." *The Economist*, 3 October 2013, https://www.economist.com/china/2013/10/03/looks-good-on-paper. Accessed 27 April 2019.

https://doi.org/10.1017/S0305741020000995 Published online by Cambridge University Press

managed to build comprehensive, high-quality systems of higher education.[81] There are sound reasons why a leading economy with 1.2 billion people, a rich educational heritage and many of the best students in the world has not attained its full potential in higher education. Great systems of higher education have diverse institutions that offer high-quality academic and vocational choices with inter-connected progression routes towards opportunity and employment. At the very least, they open minds and broaden how students think and construct knowledge to live effectively in a changing world. Leading systems direct their research at global problems. China's universities have the aspiration, brainpower and government support. Improving quality will take more than this.[82]

The higher education system finds it difficult to increase institutional autonomy while deepening internationalization and protecting the educational sovereignty of the party-state. Strong state control was key to the success of China's universities. As complexity grows, that becomes an obstacle. Universities excel when they pursue truth and academic integrity without political interference.[83] The state has a role in public accountability by encouraging shared governance, monitoring performance-based funding and rewarding knowledge exchange for mutual benefit with business, government and the public.[84] The shift from intervention to evaluation and regulation requires a reform of institutional and system governance.

The Covid-19 crisis and a possible second Cold War confound projections about the coming decades.[85] As the proportion of university staff with research doctorates continues to grow, it will be impossible to disengage from the global academy. Greater professional autonomy comes with expanded networks of international academic and research collaborations. The issue of educational sovereignty should not be the primary basis for governing the academic research enterprise. Future crises such as climate change and the next pandemic have to be addressed by the academic research enterprise through international collaboration. Addressing income inequality and unequal access to a university education is as much an emerging domestic issue as an urgent international one. The success of governance reform will not only rest upon how universities serve the economy but also how well they protect the essence of what they do that no other institution can.

Acknowledgements

This research is funded by the Hong Kong Research Grants Council, No. HKU 37600514 HSSPFS.

81 QS World Ranking of Universities 2019, https://www.topuniversities.com/university-rankings/world-university-rankings/2020. Accessed 2 June 2020.
82 Kirby 2014.
83 Berdahl 1990.
84 Capano, Regini and Turri 2016.
85 Shi Yihong, quoted in Bermingham and Zhou 2020.

https://doi.org/10.1017/S0305741020000995 Published online by Cambridge University Press

Conflicts of interest

None.

Biographical note

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摘要: 中国经历了空前的高等教育扩张，并采取了诸多卓越举措，推动了更多的中国大学跻身全球排名前列。然而，与经济发展相比，中国高等教育体系的国际影响力显得黯然失色。本文认为，高等教育的治理改革能部分解决日益复杂的社会和地缘政治的现实问题。随着更加制度化和专业化的办学自主权的扩大，大学和学术研究界可以更好地寻找创新性的解决方案，以解决国内和国际可持续发展的紧迫问题。

关键词: 高等教育大众化; 治理改革; 卓越举措; 学术研究事业; 中国

References

Abrami, Regina, William C. Kirby and F. Warren McFarlan. 2014. *Can China Lead? Reaching the Limits of Power and Growth*. Boston, MA: Harvard Business Review Press.

Altbach, Philip G. 2011. "The past, present, and future of the research university." In Philip G. Altbach and Jamil Salmi (eds.), *The Road to Academic Excellence*. Washington, DC: World Bank, 11–32.

Barton, Dominic, Jonathan Woetzel, Jeongmin Seong and Qinzhang Tian. 2017. "Artificial intelligence: implications for China." McKinsey Global Institute discussion paper, https://www.mckinsey.com/~/media/mckinsey/featured%20insights/China/Artificial%20intelligence%20Implications%20for%20China/MGI-Artificial-intelligence-implications-for-China.ashx. Accessed 30 June 2019.

Bastedo, Michael, and Nicholas A. Bowman. 2011. "College rankings as an inter-organizational dependency: establishing the foundation for strategic and institutional accounts." *Research in Higher Education* 52, 3–23.

Beardson, Timothy. 2013. *Stumbling Giant: The Threats to China's Future*. New Haven, CT: Yale University Press.

Berdahl, Robert O. 1990. "Academic freedom, autonomy, and accountability in British universities." *Studies in Higher Education* 15(2), 169–180.

Bermingham, Finbarr, and Cissy Zhou. 2020. "Coronavirus: China and US in 'new Cold War' as relations hit lowest point in 'more than 40 years', spurred on by pandemic." *South China Morning Post*, 5 May, https://www.scmp.com/economy/china-economy/article/3082968/coronavirus-china-us-new-cold-war-relations-hit-lowest-point. Accessed 7 May 2020.

Cai, Yuzhou, and Fengqiao Yan. 2015. "Supply and demand in Chinese higher education." In Simon Schwartzman, Rómulo Pinheiro and Pundy Pillay (eds.), *Higher Education in the BRICS Countries: Investigating the Pact between Higher Education and Society*. Dordrecht: Springer, 149–169.

Cao, Yingxia, and Daniel Levy. 2015. "China's private higher education: the impact of public-sector privatization." *International Higher Education* (41). https://doi.org/10.6017/ihe.2005.41.7508.

Capano, Giliberto, Marino Regini and Matteo Turri. 2016. *Changing Governance in Universities. Italian Higher Education in Comparative Perspective*. London: Palgrave Macmillan.

https://doi.org/10.1017/S0305741020000995 Published online by Cambridge University Press

Carnoy, Martin, Prashant Loyalka, Maria Dobryakova, Rafiq Dossani, Isak Froumin, Katherine Kuhns, Jandhyala B.G. Tilak and Rong Wang. 2013. *University Expansion in a Changing Global Economy: Triumph of the BRICs?* Stanford, CA: Stanford University Press.

Cassidy, John. 2016. "Trump University: it's worse than you think." *The New Yorker*, 2 June.

Chan, Wing Kit. 2015. "Higher education and graduate employment in China: challenges for sustainable development." *Higher Education Policy* 28(1), 35–53.

Chen, Zhili. 2002. "The impact of WTO on China's educational enterprise and related policies." *People's Education* 3(2002), 4–7. Cited in Pan 2009, 90.

Crossley, Gabriel. 2020. "Coronavirus weakens job market for record number of Chinese graduates." *Reuters*, 21 February, https://www.reuters.com/article/us-china-health-graduates/coronavirus-weakens-job-market-for-record-number-of-chinese-graduates-idUSKBN20F0MD. Accessed 12 June 2020.

Cummings, William K., and Ulrich Teichler (eds.). 2015. *The Relevance of Academic Work in Comparative Perspective*. Cham, Switzerland: Springer International Publisher.

Du, Xiaoxin. 2018. "Role split phenomenon of academic staff in Chinese higher education: a case study of Fudan University." *Higher Education* 75(6), 997–1013.

Gu, Mingyuan. 2014. *Cultural Foundations of Chinese Education*. Leiden: Brill Press.

Han, Shuangmiao, and Xin Xu. 2019. "How far has the state 'stepped back': an exploratory study of the changing governance of higher education in China (1979–2018)." *Higher Education* 78, 931–946.

Hawkins, John, William Jacob and Wenli Li. 2009. "Higher education in China: access, equity and equality." In Donald Holsinger and William Jacob (eds.), *Inequality in Education*. Dordrecht: Springer, 215–229.

Hayhoe, Ruth. 1989. *China's Universities and the Open Door*. Armonk, NY: Sharpe.

Hayhoe, Ruth. 1996. *China's Universities, 1895–1995: A Century of Cultural Conflict*. New York: Garland Press.

Hazelkorn, Ellen. 2014. "The effects of ranking on student choice and institutional selection." In Ben Jongbloed and Hans Vossensteyn (eds.), *Access and Expansion Post-massification: Opportunities and Barriers to Further Growth in Higher Education Participation*. London: Routledge.

Hennock, Mary. 2010. "With new survey, Chinese colleges ask students what they really think." *The Chronicle of Higher Education*, 9 August, https://www.chronicle.com/article/With-New-Survey-Chinese/123858. Accessed 29 October 2018.

Horta, Hugo, and Wenqin Shen. 2020. "Current and future challenges of the Chinese research system." *Higher Education Policy and Management* 42(2), 157–177.

Huang, Futao. 2015. "Building the world class research universities: a case study of China." *Higher Education* 70(2), 203–215.

Huang, Futao, Martin Finkelstein and Michele Rostan (eds.). 2014. *The Internationalization of the Academy: Changes, Realities and Prospects*. Dordrecht: Springer Press.

Jacques, Martin. 2009. *When China Rules the World: The Rise of the Middle Kingdom and the End of the Western World*. London: Allen Lane.

Jarvis, Darry S.L., and Joshua Ka Ho Mok. 2019. *Transformations in Higher Education Governance in Asia: Policy, Politics and Progress*. Dordrecht: Springer.

Jia, Hepeng. 2017. "China's citations catching up: papers from China are growing in influence and volume, yet the US remains supreme." *Nature Index*, 30 November, https://www.natureindex.com/news-blog/chinas-citations-catching-up. Accessed 24 September 2018.

Kirby, William C. 2014. "The Chinese century? The challenges of higher education." *Deadalus* 143(2), 145–156.

Levin, Richard. 2006. "Universities branch out." *Newsweek*, 21–28 August, http://www.law.yale.edu/documents/pdf/Public_Affairs/PresidentLevinArticle.pdf. Accessed 30 June 2014.

Li, Mei, and Rui Yang. 2013. "Governance reforms in higher education: a study of institutional autonomy in China." In N.V. Varghese and Michaela Martin (eds.), *Governance Reforms in*

https://doi.org/10.1017/S0305741020000995 Published online by Cambridge University Press

Higher Education in Asia: A Study of Institutional Autonomy in Asian Countries. Paris: International Institute for Educational Planning, UNESCO, 69–85.

Li, Raymond. 2013. "Seven subjects off limits for teaching, Chinese universities told." *South China Morning Post*, 10 May, https://www.scmp.com/news/china/article/1234453/seven-subjects-limits-teaching-chinese-universities-told. Accessed 20 July 2019.

Li, Zhang 2009. "Policy direction and development trends for Sino-foreign partnership schools." *Chinese Education and Society* 42(4), 19–33.

Lin, Jinhui. 2014. *Zhongwai hezuo banxue yu guojihua rencai peiyang* (*Chinese–Foreign Cooperation in the Running of Educational Institutions and the Training of Talent with International Views*). Xiamen: Xiamen University Press.

Lloyd-Damnjanovic, Anastasya. 2018. *A Preliminary Study of PRC Political Influence and Interference Activities in American Higher Education*. Washington, DC: Wilson Center.

Lo, William Yat Wai. 2017. "The road to privatization of higher education in China: a new cultural revolution?" *Higher Education* 74(2), 381–83.

Marginson, Simon. 2013. "The impossibility of capitalist markets in higher education." *Journal of Education Policy* 28(3), 353–370.

MOE (Ministry of Education). 2017. "2017 nian pinkun diqu nongcun xuesheng shang zhongdian gaoxiao renshu zai zengzhang 9.3%" (The number of key college students from poverty-stricken rural areas increased by 9.3% in 2017), 29 August, https://www.edu.cn/edu//gao_deng/gao_jiao_news/201708/t20170829_1550331.shtml. Accessed 25 May 2020.

MOE. 2019. "2019 nian quanguo jiaoyu shiye fazhan tongji gongbao" (2019 Education development statistical report), http://www.moe.gov.cn/jyb_sjzl/sjzl_fztjgb/202005/t20200520_456751.html. Accessed 25 May 2020.

MOE, State Council Office of Redressing Malpractices, Ministry of Supervision, National Development and Reform Commission, Ministry of Finance, National Audit Office and Press and Publication Administration. 2005. "Jiaoyu bu deng qi bumen guanyu 2005 nian zhili jiaoyu luan shoufei gongzuo de shishi yijian" (Opinions of seven ministries including the Ministry of Education on regulating misbehaviours in fee collections in 2005), http://www.moe.gov.cn/srcsite/A25/s3144/200504/t20050401_81025.html. Accessed 25 May 2020.

MOE, State Council Office of Redressing Malpractices, Ministry of Supervision, National Development and Reform Commission, Ministry of Finance, National Audit Office and Press and Publication Administration. 2006. "Jiaoyu bu deng qi bumen guanyu 2006 nian zhili jiaoyu luan shoufei gongzuo de shishi yijian" (Opinions of seven ministries including the Ministry of Education on regulating misbehaviours in fee collections in 2006), http://www.moe.gov.cn/srcsite/A25/s3144/200604/t20060406_81023.html. Accessed 25 May 2020.

MOE, State Council Office of Redressing Malpractices, Ministry of Supervision, National Development and Reform Commission, Ministry of Finance, National Audit Office and Press and Publication Administration. 2012. "Jiaoyu bu deng qi bumen guanyu 2012 nian zhili jiaoyu luan shoufei gongzuo de shishi yijian" (Opinions of seven ministries including the Ministry of Education on regulating misbehaviours in fee collections in 2012), http://www.moe.gov.cn/srcsite/A01/s7048/201204/t20120428_171881.html. Accessed 25 May 2020.

MyCOS Research. 2019. *Zhongguo gaozhi gaozhuan jiuye lanpishu* (*Chinese College Graduates' Bluebook of Employment*). Beijing: Social Science Publishing House.

Normile, Dennis. 2018. "Biologist unveils China's first private research university." *Science* 359 (6378), 856.

OECD. 2013 "Asian countries top OECD's latest PISA survey on state of global education," 3 December, http://www.oecd.org/education/asian-countries-top-oecd-s-latest-pisa-survey-on-state-of-global-education.htm. Accessed 20 March 2018.

Pan, Maoyuan. 2009. "An analytical differentiation of the relationship between education sovereignty and education rights." *Chinese Education and Society* 42(4), 88–99.

https://doi.org/10.1017/S0305741020000995 Published online by Cambridge University Press

Pepper, Suzanne. 2000. *Radicalism and Education Reform in 20th Century China: The Search for an Ideal Development Model*. Cambridge: Cambridge University Press.

Postiglione, Gerard A. 2002. "Chinese higher education at the turn of the century: expansion, consolidation, and globalization." In David Chapman and Ann Austin (eds.), *Higher Education in the Developing World: Changing Contexts and Institutional Responses*. Westport, CT: Greenwood, 149–166.

Postiglione, Gerard A. 2005. "Higher education in China: perils and promises for a new century." *Harvard China Review* 5(2), 138–143.

Postiglione, Gerard. A. 2009a. "Education of ethnic groups in China." In James A. Banks (ed.), *The Routledge International Companion to Multicultural Education*. New York: Routledge, 501–511.

Postiglione, Gerard A. 2009b. "Ethnic minorities in China." In Linsun Cheng (ed.), *Berkshire Encyclopedia of China*. Great Barrington, MA: Berkshire Publishing Company, 763–770.

Postiglione, Gerard A. 2010a. "Higher education since 1949." In David Pong (ed.), *Encyclopedia of Modern China*. New York: MacMillan.

Postiglione, Gerard A. 2010b. "Ethnic identity and educational outcomes in China." In Penelope Peterson, Eva Baker and Barry McGaw (eds.), *International Encyclopedia of Education*. Oxford: Elsevier.

Postiglione, Gerard A. 2011. "Education." In Xiaowei Zang (ed.), *Understanding Chinese Society*. London: Routledge Press.

Postiglione, Gerard A. 2015. "Research universities for national rejuvenation and global influence: China's search for a balanced model." *Higher Education* 70(2), 235–250.

Postiglione, Gerard A. 2016. "China's search for its liberal arts and sciences model." In William C. Kirby and Marijk C. van der Wende (eds.), *Global Dialogue on Liberal Arts and Science Education: Promises and Challenges for China*. New York: Palgrave Macmillan, 17–31.

Postiglione, Gerard A., and Shiru Wang. 2011. "Governance of the academy in Hong Kong." In William Locke, William K. Cummings and Donald Fisher (eds.), *Changing Governance and Management in Higher Education*. Dordrecht: Springer, 343–368.

Project 211 Working Group. 2007. "211 gongcheng fazhan baogao 1995–2005" (211 development report 1995–2005), https://book.douban.com/subject/2288766/ongcheng. Accessed 15 June 2020.

Ramirez, Francisco, and Tom Christensen. 2013. "The formalization of the university: rules, roots, and routes." *Higher Education* 65(6), 695–708.

Redden, Elizabeth. 2014. "Bucking the branch campus." *Inside Higher Education*, 12 March, http://www.insidehighered.com/news/2014/03/12/amid-branch-campus-building-boom-some-universities-reject-model#ixzz34fcVHp8L. Accessed 14 June 2017.

Redden, Elizabeth. 2018. "Closures of China–foreign programs." *Inside Higher Education*, 11 July, https://www.insidehighered.com/news/2918/07/11/chinas-ministry-education-approves-termination-more-200-chinese-foreign-cooperative. Accessed 12 January 2019.

Salmi, Jamil. 2009. *The Challenge of Establishing World Class Universities*. Washington, DC: The World Bank.

Salmi, Jamil. 2016. "Excellence initiatives to create world-class universities." *International Higher Education* (87), 17–18. https://doi.org/10.6017/ihe.2016.87.9506.

Sautman, Barry. 1991. "Politicization, hyperpoliticization, and depoliticization of Chinese education." *Comparative Education Review* 13(4), 669–689.

Schwartzman, Simon, Rómulo Pinheiro and Pundy Pillay (eds.). 2015. *Higher Education in the BRICS Countries: Investigating the Pact between Higher Education and Society*. Dordrecht: Springer Press.

Shambaugh, David. 2016. *China's Future*. Cambridge: Polity Press.

Shambaugh, David. 2019. "When China and the US wage a visa war against each other's scholars, nobody wins." *South China Morning Post*, 23 April, https://www.scmp.com/comment/insight-opinion/article/3007149/when-china-and-us-wage-visa-war-against-each-others. Accessed 2 May 2020.

https://doi.org/10.1017/S0305741020000995 Published online by Cambridge University Press

Shin, Jung Cheol, Gerard A. Postiglione and Futao Huang. 2015. *Mass Higher Education Development in East Asia: Strategy, Quality, and Challenges*. Cham, Switzerland: Springer.

Slaughter, Sheila, and Gary Rhoades. 2009. *Academic Capitalism and the New Economy: Markets, State, and Higher Education*. Baltimore, MD: John Hopkins University Press.

State Council. 2007. "Guowuyuan guanyu jianli jianquan putong benke gaoxiao gaodeng zhiye xuexiao he zhongdeng zhiye xuexiao jiating jingji kunnan xuesheng zizhu zhengce tixi de yijian" (Opinions of the State Council on establishing and improving the financial aid policy system for students with financial difficulties in higher education institutions, higher and secondary vocational schools), http://www.gov.cn/zwgk/2007-05/23/content_623615.htm. Accessed 12 May 2020.

State Council. 2015. "State Council eyes world-class higher education," 5 November, http://english.gov.cn/policies/latest_releases/2015/11/05/content_281475228417144.htm. Accessed 20 December 2018.

Sun, Weiyu. 2017. "China's higher education enrollment rate reaches 42.7% in 2016." *People's Daily*, 11 July, http://en.people.cn/n3/2017/0711/c90000-9240278.html. Accessed 25 May 2020.

Teichler, Ulrich, William K. Cummings and Akira Arimoto (eds.). 2013. *The Changing Academic Profession: Major Findings of a Comparative Survey*. Dordrecht: Springer Press.

Trow, Martin. 2007. "Reflections on the transition from elite to mass to universal access: forms and phases of higher education in modern societies since WWII." In James J.F. Forest and Philip G. Altbach (eds.), *International Handbook of Higher Education*. Dordrecht: Springer, 243–280.

United States Government Accounting Office. 2016. "Report to Congressional requesters, US universities in China emphasize academic freedom but face internet censorship and other challenges," https://www.gao.gov/assets/680/679322.pdf. Accessed 24 April 2020.

WEF (World Economic Forum). 2016. "The human capital report," http://www3.weforum.org/docs/HCR2016_Main_Report.pdf. Accessed 25 March 2020.

Welch, Anthony R., and Zhen Zhang. 2008. "Higher education and global talent flows: brain drain, overseas Chinese intellectuals, and diasporic knowledge networks." *Higher Education Policy* 21(4), 519–537.

Wildavsky, Ben. 2012. *The Great Brain Race: How Global Universities are Reshaping the World*. Princeton, NJ: Princeton University Press.

Woetzel, Jonathan, Yougang Chen, James Maniyika, Erik Roth, Jeongmin Seong and Jason Lee. 2015. "The China effect on global innovation." McKinsey Global Institute Bulletin, October 2015, http://www.mckinseychina.com/wp-content/uploads/2015/07/mckinsey-china-effect-on-global-innovation-2015.pdf. Accessed 14 February 2018.

Yang, Rui. 2017. "The cultural mission of China's elite universities: examples from Peking and Tsinghua." *Studies in Higher Education* 42(10), 1825–38. DOI: 10.1080/03075079.2017.1376873.

Yeung, Linda. 2011. "China: ex-premier criticises higher education reform." *University World News*, 1 May, https://www.universityworldnews.com/post.php?story=20110429170813946. Accessed 12 September 2020.

Yu, Kai. 2018. "The consolidation of Chinese private higher education." *International Higher Education* 95, 21–23.

Zha, Qiang. 2009. "Diversification or homogenization: how governments and markets have combined to (re)shape Chinese higher education in its recent massification process." *Higher Education* 58(1), 41–58.

Zha, Qiang, and Ruth Hayhoe. 2014. "The 'Beijing consensus' and the Chinese model of university autonomy." *Frontiers of Education in China* 9(1), 42–62.

Zhang, Minxuan. 2009. "New era, new policy." *Chinese Education and Society* 42(4), 23–40.

Zhao, Litao, and Jinjing Zhu. 2000. "China's higher education reform: what has not been changed?" *East Asian Policy* 2(4), 115–125.

Zheng, Qiang. 2016. "Lianghui qijian fayan, Guizhou daxue xiaozhang: jiaoyu bushi quanguo suoyou daxue de jiaoyu bu bushi fada diqu de" (During the two sessions of 2016, the president of Guizhou

https://doi.org/10.1017/S0305741020000995 Published online by Cambridge University Press

University: "the Ministry of Education is the education department of all universities in the country"). CCTV, https://www.youtube.com/watch?v=LZnEcjnIyGk. Accessed on 25 June 2019.
Zweig, David, and Siqin Kang. 2020. "America challenges China's national talent programs." Report No. 4, Center for Strategic and International Studies, https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/20505_zweig_AmericaChallenges_v6_FINAL.pdf?bTLm4WdtG93lAVmxLdlWsgkgeNQDQUAv. Accessed 2 June 2020.

https://doi.org/10.1017/S0305741020000995 Published online by Cambridge University Press