Research Report

Are Chinese Universities Globally Competitive?*

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Abstract

This article compares five leading Chinese universities with 16 other research-intensive institutions in Asia, Europe and the United States. All the universities demonstrate an increasing commitment to research, although the fastest growth between 2003 and 2007 occurred in Asian institutions. Beijing and Qinghua universities compare favourably in terms of funding, but their research output is not as highly regarded. Despite concerns about academic freedom, the international standing of at least some Chinese universities is likely to rise in the future.

Keywords: higher education; world class universities; China; comparative education

This research began with a focus on the development of world-class universities in China. Several major funding programmes have invested millions of RMB in the country's leading universities. While international comparisons are difficult, the differences between five leading Chinese universities and similar institutions in Europe, the United States and other Asian nations demonstrate the progress China has made as well as the challenges it still faces. Are the top Chinese universities more competitive now after more than a decade of special funding?

Context

This research is grounded in the larger discussion of globalization and higher education.[1] Globalization is generally defined as worldwide integration with an emphasis on market-style competition between nations.[2] Johnstone draws a distinction between internationalization and globalization. Internationalization means activities within universities' control, such as the exchange of students, scholars, ideas and activities that celebrate national and regional cultures.

* Fieldwork for this study was partially supported by an A.T. Steele Travel Grant from the Institute for Asian Research at Arizona State University.

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1 For example, see Clotfelter 2010; Jones, McCartney and Skolnik 2005; Odin and Manicas 2004; Varghese 2009.

2 Maringe and Foskett 2010; Marginson and van der Wende 2007.

© The China Quarterly, 2013 doi:10.1017/S0305741013000672 First published online 20 June 2013

https://doi.org/10.1017/S0305741013000672 Published online by Cambridge University Press

He defines globalization as *supranational*: diminishing national cultures, or at least those cultures that cannot withstand pressures of modernism, liberal democracy and the hegemony of the English language.[3]

In an increasingly networked global economy,[4] knowledge is positioned as the foundation of economic, social and political power,[5] and thus nations are increasingly dependent upon brainpower.[6] This means universities play a key role in creating new knowledge for economic growth and in educating people who have the intellectual breadth and critical thinking skills to innovate and lead.[7]

In the past, colleges and universities competed nationally; today many of them compete globally. As a result, universities become disembedded from the national context[8] and governments have less control over individual institutions.[9] The role universities play in a global context becomes more important than their role at a national level.[10] At the same time, universities themselves have less sovereignty over their own activities because of the influence of global forces.[11]

The world-class university phenomenon is an outgrowth of international competition among research-intensive universities. As Altbach states, "No one knows what a world-class university is, and no one has figured out how to get one."[12] The creation of international university rankings, especially the Shanghai Jiaotong University listings,[13] has led to what some observers consider an academic arms race[14] since rankings create a zero–sum game of prestige. Many of these rankings valorize research in the sciences and thus create a single model of excellence.[15] Rauhvargars cautions that policymakers are "tempted to judge all higher education in the world by the standards that rankings use to detect the top *research* universities, rather than applying one of the core principles of quality assurance – the 'fitness for purpose' principle."[16] Globalization subjects all higher education institutions to the pressure of an unequal global knowledge system dominated by the wealthy universities, and imposes the norms and values of those institutions upon all.[17]

3 Johnstone 2010.
4 Castells 1996.
5 Hazelkorn 2011, 6; Johnstone 2010, 19.
6 Wildavsky 2010, 5.
7 Levin 2010, 66.
8 Burnett and Huisman 2010.
9 Marginson 2008.
10 Deem, Mok and Lucas 2008, 91.
11 Marginson and van der Wende 2007, 17; Geiger 2004, 265, as quoted in Altbach and Balan 2007, 14.
12 Altbach 2004, 20.
13 See Center for World-Class Universities. 2010. *2010 Academic Ranking of World Universities*, http://www.arwu.org/ARWU2010.jsp. Accessed 5 May 2011.
14 Dill and Soo 2005, 523.
15 Espeland and Sauder 2007, 3; Bowman and Bastedo 2009, 421.
16 Rauhvargers 2011, 13.
17 Altbach and Balan 2007, 17.

https://doi.org/10.1017/S0305741013000672 Published online by Cambridge University Press

Methodology

This project compares 21 research-intensive universities, taking the institution as the unit of analysis:

China

- Beijing University (BJU)
- Qinghua University (QHU)
- Sichuan University (SCU)
- Tianjin University (TJU)
- Beijing Normal University (BNU)

Japan

- Tokyo University (TOK)
- Kyoto University (KYO)
- Tohoku University (THK)

Australia

- Australian National University (ANU)
- University of Sydney (SYD)

Hong Kong

- Chinese University of Hong Kong (CUHK)
- Hong Kong University (HKU)

Other Asia

- National Taiwan University (NTS)
- National University of Singapore (NUS)
- Korea University (KOR)

Europe

- University of Oxford (OXF)
- Swiss Federal Institute of Technology Zurich (ETH)
- Pierre and Marie Curie University (Paris 06)

United States of America

- Massachusetts Institute of Technology (MIT)
- University of California, Berkeley (UCB)
- University of Michigan, Ann Arbor (UM)

Institutional statistics were gathered on enrolments, staffing, budgets, research expenditures, rankings and publications in 2003 and 2007. Sources include university websites, relevant government resources, the ISI Web of Knowledge and personal interviews at Chinese universities.

The years 2003 and 2007 were chosen because of the timing of the 985 Project, a huge supplemental funding stream for an elite group of 39 Chinese universities

https://doi.org/10.1017/S0305741013000672 Published online by Cambridge University Press

with the potential to achieve international distinction. The first phase of the project (1999–2003) provided a total grant of 14.2 billion yuan (US$1.7 billion). This report focuses primarily on the second phase of the project (2004–2008), which granted 19.1 billion yuan (US$2.3 billion) in support.

Wealth

While money alone does not make a university internationally competitive, it certainly helps. This research takes university expenditures and normalizes them to US dollars using the World Bank's Purchasing Power Parity (PPP) methodology.[18] Then, given the size differences among the 21 universities, it compares expenditures on a per student basis and on a professor plus researcher basis; because universities organize their teaching and research staff in different ways, this project adds the two academic categories to make the statistics comparable (see Table 1).

It is not surprising that the American universities are relatively wealthy, but it is startling to see that Tokyo exceeds, and Kyoto approaches, Berkeley and Michigan in total expenditures per professor plus researcher. Another surprise is the relative affluence of Qinghua and Beijing universities, both of which ranked higher than all three of the European institutions. These two Chinese universities increased total expenditure between 2003 and 2007 by 76 per cent for Beijing and a remarkable 82 per cent for Qinghua (see Figure 1). While the increases include all sources of revenue, a significant factor for the five Chinese universities is the 985 Project. As Table 2 suggests, the amount of money going to top universities is staggering, even by Western standards, demonstrating the impressive commitment of the Chinese government to its higher education.

Research Expenditures

While global competitiveness can be measured in many ways, the prevailing standard is research output and impact. As Table 3 shows, all of the universities in this study increased their research expenditures between 2003 and 2007, in some cases by more than 120 per cent. Comparisons of research expenditures between high and low institutions reveal some interesting patterns. For example, Michigan (the university with the highest research expenditure in 2003) outpaced Beijing Normal (the university with the lowest research expenditure) by 24 times. However, in 2007, this difference had been reduced to 16 times higher, suggesting that Beijing Normal increased its commitment to research at a faster rate than Michigan. Similarly, MIT's research expenditure in 2003 was 2.3 times more than that of Qinghua; in 2007, the difference was 1.5. A comparison between Tokyo and Beijing shows a 2003 difference of 2.3 times, while the gap narrows

18 World Bank 2008.

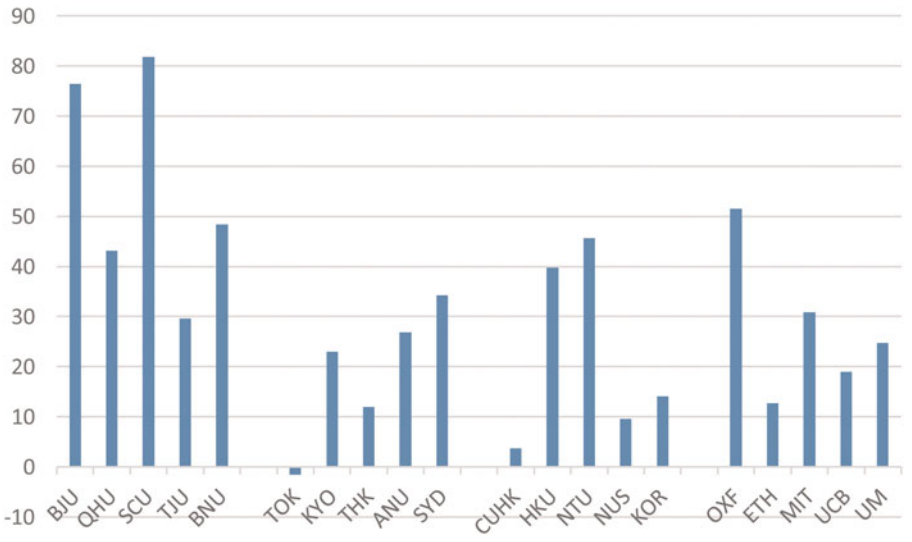
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Table 1: **University Expenditures per Student and per Professor Plus Researcher in US$ Using PPP, 2007**

	Total university expenditures, 2007	Per student	Per professor plus researcher
BJU	1,087,916,677	33,938	252,593
QHU	1,286,351,275	50,636	278,854
SCU	493,677,768	8,401	112,276
TJU	319,147,855	13,471	138,760
BNU	347,021,420	20,344	200,590
TOK	1,690,467,001	60,671	697,387
KYO	1,106,777,306	49,313	579,161
THK	998,610,575	56,077	383,197
ANU	496,054,676	35,734	337,223
SYD	803,978,417	17,794	293,637
CUHK	869,068,541	42,904	386,596
HKU	1,145,725,659	52,733	267,881
NTU	839,661,841	26,226	441,695
NUS	1,129,078,704	38,529	331,302
KOR	530,891,639	15,997	122,949
OXF	1,037,230,769	53,200	249,755
ETH	595,412,644	42,533	147,343
P06	396,832,510	14,949	119,925
MIT	2,207,621,000	216,010	469,008
UCB	1,685,527,000	48,223	563,533
UM	4,433,602,000	113,168	613,817

Sources:
University websites (see Appendix); Ministry of Education of China 2007; personal communication with author.

Figure 1: **Percentage Change in University Expenditures, 2003–2007**



(colour online)

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Table 2: **Average Annual Grant from 985 Project as a Percentage of Total University Expenditures, 2007**

	985 Project grant Phase 2 in RMB, 2004–08	Average annual grant 985 Project in RMB, Phase 2	Average annual grant in US$ using PPP	Average annual grant as % of total university expenditures
BJU	2,408,000,000	602,000,000	174,492,754	16.0%
QHU	3,591,000,000	897,750,000	260,217,391	20.2%
SCU	400,000,000	100,000,000	28,985,507	5.9%
TJU	421,000,000	105,250,000	30,507,246	9.6%
BNU	600,000,000	150,000,000	43,478,261	12.5%

to 2.0 times in 2007. In other words, Chinese universities are investing heavily in research.

When controlling for size, the differences among the 21 universities are striking. As Table 4 shows, Sichuan and Korea more than doubled their research expenditures per professor plus researcher between 2003 and 2007 (albeit from a small base). Four other universities increased the same statistic by more than 50 per cent. In 2007, Tokyo spent more on research per capita than Michigan, and Qinghua's expenditure was nearing that of Kyoto and Singapore universities.

Table 3: **Research Expenditures in US$ Using PPP, 2003 and 2007**

	2003	2007	% change
BJU	126,197,304	230,173,594	82.4
QHU	207,025,739	401,059,072	93.7
SCU	49,696,377	110,604,029	122.6
TJU	55,414,928	83,802,841	51.2
BNU	31,705,942	52,407,884	65.3
TOK	295,831,725	478,579,699	61.8
KYO	198,054,805	257,221,150	29.9
THK	153,014,574	252,380,486	64.9
ANU	71,292,086	97,712,230	37.1
SYD	47,780,575.54	70,832,374	48.2
CUHK	59,139,543	84,824,253	43.4
HKU	219,349,736	353,374,341	61.1
NUS	152,948,148	338,888,889	121.6
KOR	63,755,802	134,533,063	111.0
OXF	250,529,231	381,846,154	52.4
ETH	88,023,563	123,775,437	40.6
P06		74,718,596	
MIT	474,000,000	598,000,000	26.2
UCB	507,186,000	552,365,000	8.9
UM	780,054,000	808,731,000	3.7

Sources:
University websites (see Appendix); Ministry of Education of China 2003; 2007; personal communication with author.

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Table 4: **Research Expenditures per Professor Plus Researcher in US$ Using PPP, 2003 and 2007**

	2003	2007	% change
BJU	38,557	53,442	38.6
QHU	49,540	86,941	75.5
SCU	11,918	25,154	111.1
TJU	26,848	36,436	35.7
BNU	25,882	30,294	17.0
TOK	72,955	120,367	65.0
KYO	68,013	89,875	32.1
THK	53,020	80,172	51.2
ANU	57,171	66,426	16.2
SYD	20,376	24,994	22.7
CUHK	31,693	37,400	18.0
HKU	72,632	105,896	45.8
NUS	55,699	88,877	59.6
KOR	14,203	31,156	119.4
OXF	77,515	91,945	18.6
ETH	23,887	30,630	28.2
P06		22,580	
MIT	337,847	231,603	−31.4
UCB	155,722	184,676	18.6
UM	154,161	111,966	−27.4

Sources:
University websites (see Appendix); Ministry of Education of China 2003; 2007; personal communication with author.

Interestingly, both MIT and Michigan's research expenditures per professor plus researcher decreased. One possible reason is a 15 per cent increase in the number of professors and researchers at MIT and a 43 per cent increase at Michigan between 2003 and 2007. The decline in research expenditures per capita may also reflect a slowdown in US government research support during this period.

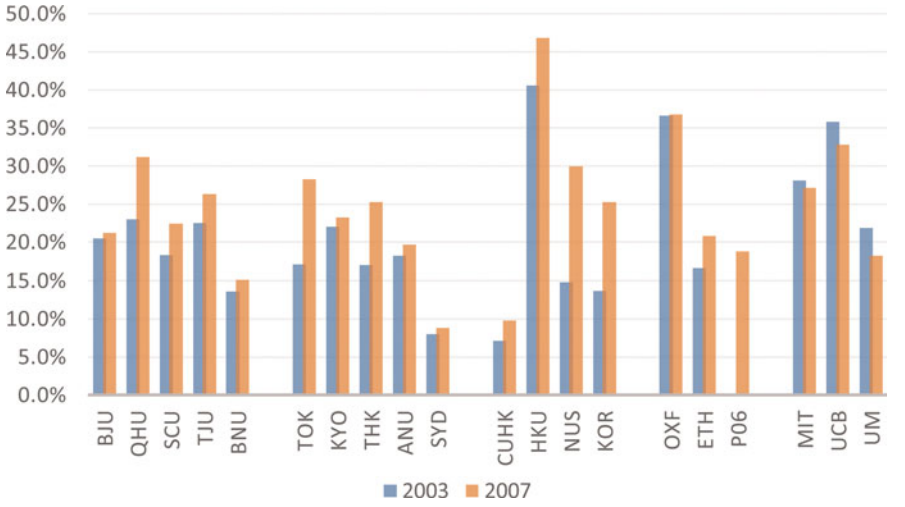
Research intensity can be estimated by looking at the proportion of the total university budget devoted to research. According to Figure 2 most universities outside the United States show an increase between 2003 and 2007.

Publications

A second way to estimate research intensity is to look at publications in highly regarded journals. I use the total number of journal articles listed in the ISI Web of Knowledge as an indicator of good quality research. As Table 5 shows, all 21 universities increased the number of publications by faculty and researchers between 2003 and 2007, with a doubling of publications at both Sichuan and Tianjin; Korea was not far behind with a 94 per cent increase. A more useful comparison controls for institutional size by dividing the number of journal articles by the number of professors plus researchers in the relevant years. As the right hand columns of Table 5 reveal, Tokyo and Kyoto lead in this measure in 2007, but the Chinese

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Figure 2: **Research Expenditures as a Percentage of Total University Expenditures in US$ Using PPP, 2003 and 2007**



(colour online)

universities do not compare as well, despite increases in the total number of publications. Since much research was done in separate institutes until recently, the comparatively low statistics are not surprising.

Interestingly, five institutions saw a decline in publications per capita, but these five universities were all among the top eight in the percentage increase in professors plus researchers. In other words, the number of academic staff increased much faster between 2003 and 2007 than the number of publications. However, in general all of the 21 universities are increasingly oriented towards publications.

Frequently Cited Researchers

However, number of publications is not always matched by reputation. A third way to evaluate research intensity is to examine the number of frequently cited researchers. The first column in Table 6 shows the number of individuals at each institution who are frequently referenced by other scholars. American universities have the largest number of frequently cited researchers, while Korea and the Chinese universities have no frequently cited scholars. Similar evidence comes from the Shanghai Jiao Tong rankings, with no Chinese or Korean scholars frequently cited. The possibility of a "halo effect" must be considered, in which scholars prefer to cite people at the most prestigious institutions thereby giving the advantage to well-known Western scholars. However, the absence of frequently cited researchers in Chinese universities suggests that investments made today may not show results for many years to come.

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Table 5: **Publications, and Publications per Professor Plus Researcher, 2003 and 2007**

	Number of publications			Publications per professor plus researcher		
	2003	2007	% increase	2003	2007	% increase
BJU	1,816	2,765	52.3	0.55	0.64	16.4
QHU	2,322	3,015	29.8	0.56	0.65	16.1
SCU	614	1,584	158.0	0.15	0.36	140.0
TJU	532	1,076	102.3	0.26	0.47	80.8
BNU	505	806	59.6	0.41	0.47	14.6
TOK	5,640	5,892	4.5	1.39	1.48	6.5
KYO	4,067	4,321	6.2	1.40	1.51	7.9
THK	3,073	3,358	9.3	1.06	1.07	0.9
ANU	1,430	1,604	12.2	1.15	1.09	−5.2
SYD	2,181	2,998	37.5	0.93	1.06	14.0
CUHK	1,404	1,571	11.9	0.75	0.69	−8.0
HKU	1,654	1,878	13.5	0.55	0.56	1.8
NTU	1,916	2,937	53.3	0.51	0.73	43.1
NUS	2,312	2,874	24.3	0.84	0.75	−10.7
KOR	872	1,692	94.0	0.19	0.39	105.3
OXF	2,960	3,696	24.9	0.71	0.89	25.4
ETH	1,230	2,239	82.0	0.33	0.55	66.7
P06	2,228	2,923	31.2		0.88	
MIT	2,829	3,209	13.4	2.02	1.24	−38.6
UCB	3,847	4,214	9.5	1.18	1.41	19.5
UM	4,183	5,055	20.8	0.83	0.70	−15.7

Source:
ISI Web of Knowledge.
Note:
Number of publications equals the total of journal articles in the *Science Citation Index Expanded*, *Social Science Citation Index*, and *Arts and Humanities Index*.

Value for R&D Investment

One measure of effectiveness can be found by comparing research expenditures with the total number of articles published in the various indices – in other words, are funders getting their money's worth? Since publication lags behind investment by a number of years, this study looks at 2007 research expenditures divided by the number of articles published in 2010 (Figure 3). Admittedly, this is a crude measure but it shows significant differences among the 21 universities. Technology-oriented universities such as Qinghua, MIT and Tianjin spend more per article than do other universities but the differences cannot be attributed only to technological demands; Paris 06, also a science-oriented university, spends *seven times less* per article than MIT.

Equally startling is the comparison between European and Chinese universities: both Qinghua and Tianjin spend more per article than Oxford, ETH and Paris 06. However, it is not clear which way the causation runs. It could be that Chinese institutions may still be in the start-up phase of big research

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Table 6: **Highly Cited Researchers**

		ARWU HiCi	
	ISIHighCited.com	**2003**	**2010**
BJU	0	0	0
QHU	0	0	0
SCU	0	0	0
TJU	0	0	0
BNU	0	0	0
TOK	31	22.9	42
KYO	27	27.1	38.1
THK	8	17.8	21.6
ANU	17	44.7	36
SYD	1	20.5	20.4
CUHK	5	0	14.4
HKU	1	0	14.4
NTU	6	10.3	16.1
NUS	2	14.5	10.2
KOR	0	0	0
OXF	45	45.9	48.8
ETH	22	34	36.3
P06	10	14.5	24.9
MIT	85	67.3	66.8
UCB	89	70.3	69
UM	65	61.5	59.8

Source:

ISI Web of Knowledge; *2010 Academic Ranking of World Universities*.

Notes:

ISI highly cited researchers is the number of scholars frequently cited in journals listed in *Science Citation Index*, *Social Science Citation Index*, and *Arts and Humanities Citation Index*. ARWU HiCi ranking is based on the relationship between the top-rated institution (Harvard University in the case of HiCi) and other institutions' scores, displayed as a percentage of the top-rated institution's number of frequently cited researchers.

while European universities have been conducting such research for many decades. Alternatively, Chinese universities could be spending more of their money on long-term fundamental research rather than short-term projects, although the policy emphasis on economic development suggests a priority on applied research instead. Finally, it may be that Chinese universities may be spending more money simply because they have more money.

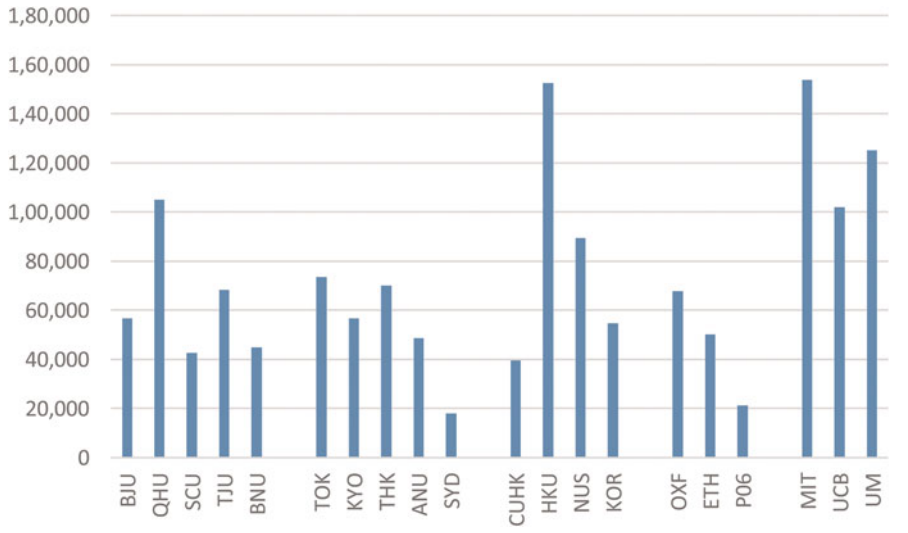
Conclusion

With world-class stature as a stated policy goal, China's top universities are following the lead of European and North American universities by shifting their frame of reference from national to international ranking.[19] Global competitiveness requires more than achieving high rankings, but the development of

19 Yang and Welch 2012.

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Figure 3: **2007 Research Expenditures per 2010 Article in US$ Using PPP**



(colour online)

international league tables has provided new ammunition in the battle for worldwide excellence.[20]

Thoughtful scholars have observed that rankings can influence institutions to change their behaviour in response to being evaluated. Espeland and Cauder note that rankings encourage schools to mimic what the rankings measure, with institutional responses including redistribution of resources, redefinition of work and "gaming the system."[21] Hazelkorn reports that, of the 151 university faculty and administrators she surveyed, only three individuals reported no action in response to rankings.[22] Deem, Mok and Lucas call for careful reflection on the extent to which "good practices" from Europe and North America can be successfully integrated into non-Western systems. Will competition in a system based on science-oriented universities in the West lead to a new dependency culture reinforced by American-dominated hegemony?[23]

Marginson notes that most of the ranking systems emphasize quantity of publications as a proxy for academic quality. In questioning the effects of global comparisons, he muses about the implications for intellectual creativity:

> One danger is that an emphasis on maximizing the volume of high quality work, so as to augment the position in citation metrics and rankings, may drive a higher proportion of inquiry down more predictable and less risky intellectual pathways. Perhaps scholars and researchers are more likely than before to work to the academic opinion market and less likely to overturn received wisdom.[24]

20 Hazelkorn 2011, 4.
21 Espeland and Sauder 2007, 24.
22 Hazelkorn 2007, 98.
23 Deem, Mok and Lucas 2008, 92.
24 Marginson 2008, 15.

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China has prioritized the development of innovative universities[25] but if Marginson is correct, its "fervent embrace"[26] of rankings and Western definitions of excellence may be at odds with its vision of an innovative society. The heavy investment in a small number of leading universities could widen the gap between elite research universities and mass teaching institutions, with uncertain implications for social and national solidarity and development.[27] Ross and Lou reinforce this point with their plea for greater balance between the potentially empowering trends of global communications and the concrete challenges faced by local communities.[28]

All the universities in this project, and the Chinese universities in particular, demonstrate an increasing emphasis upon research and publications. Yet, even with major commitments, most of the 21 universities do not have resources commensurate with their international ambitions. Hazelkorn reports that the fiscal demands of operating a world-class university are estimated at US$1.5 to 2 billion per year,[29] a level achieved in 2007 only by Tokyo and the three American universities.

These financial statistics bear out the intellectual differences between Beijing and Qinghua on the one hand, and Sichuan, Tianjin and Beijing Normal on the other. The overall budgets for the first two institutions are much larger than the other three. Research expenditures per professor plus researcher are significantly higher at Beijing and Qinghua compared with the others and their publications mirror that financial investment. Therefore, global standing may not be a realistic target for all members of the 985 Project. It might make more strategic sense for some Chinese universities to identify a few fields in which they can excel rather than striving for university-wide global recognition.

Chinese investment in its leading universities is not buying top-quality research as defined by citation indices. None of the Chinese universities has a professor whose published research is highly cited by other scholars. Intellectual snobbery may play a role, but the magnitude of the difference is marked, suggesting that the current pressure in Chinese universities to produce a high volume of publications may be a misguided priority. Perhaps fewer, but higher quality, articles would be a more suitable goal.

The research outlined here also suggests that factors other than money are important for maintaining competitiveness in the global higher education marketplace, as demonstrated by the high scholarly productivity of Paris 06, despite its low funding levels. As Table 7 shows, Paris 06 ranks at or near the bottom in

25 Ministry of Education of China. 2010. "China's new national education plan aims to build a country with rich human resources," 30 July, http://202.205.177.9/edoas/en/level3.jsp?tablename=1245221141523299&infoid=1286875199616210&title=China%A1%AFs%20New%20National%20Education%20Plan,Aims%20to%20Build%20A%20Country%20with%20Rich%20Human%20Resources%20%3CFONT%20color= .

26 Yang and Welch 2012, 2.

27 Hazelkorn 2011, 199.

28 Ross and Lou 2005, 229.

29 Hazelkorn 2011, 197, quoting Sadlak and Liu 2007; and Usher 2006.

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Table 7: **Universities in Rank Order, for Total University Expenditures, Research Expenditures and Published Articles per Professor Plus Researcher, 2007**

Total expenditures per professor plus researcher		Research expenditures per professor plus researcher		Published articles per professor plus researcher	
TOK	697,387	UCB	184,676	TOK	1.96
UM	613,817	MIT	130,519	UCB	1.71
KYO	579,161	TOK	120,367	KYO	1.57
UCB	563,533	UM	111,966	*P06*	*1.39*
MIT	469,008	NUS	95,987	ANU	1.08
CUHK	386,596	OXF	91,945	THK	1.07
THK	383,197	KYO	89,875	SYD	1.06
ANU	337,223	QHU	86,941	BJU	1.05
NUS	331,302	THK	80,172	HKU	1.04
SYD	293,637	ANU	66,426	OXF	1.03
QHU	278,854	BJU	53,442	QHU	0.96
HKU	267,881	HKU	48,688	MIT	0.8
BJU	252,593	CUHK	37,400	UM	0.8
OXF	249,755	TJU	36,436	NUS	0.77
BNU	200,590	KOR	31,156	ETH	0.73
ETH	147,343	ETH	30,630	CUHK	0.69
TJU	138,760	BNU	30,294	TJU	0.59
KOR	122,949	SCU	25,154	BNU	0.52
P06	*119,925*	SYD	24,994	KOR	0.4
SCU	112,276	*P06*	*22,580*	SCU	0.38

Sources:
University websites (see Appendix); Ministry of Education of China 2007; ISI Web of Knowledge; personal communication with the author.

university expenditures and research expenditures per professor plus researcher, yet is fourth in published articles per capita. A possible explanation for this phenomenon comes from Salmi, who states that there are three conditions necessary for the development of world-class universities: concentration of talent, abundant resources and appropriate governance.[30] The top Chinese universities, along with the others in this study, meet the first standard of talented professors and students. Beijing and Qinghua also have abundant resources. The difference comes in the third category, by which Salmi means the overall regulatory framework, the competitive environment and the degree of academic and managerial autonomy that universities enjoy.

Altbach and Salmi note that although Chinese universities have benefited from greater autonomy, continuing tight political control in the country could hamper the full development of leading universities in the medium term. They note three areas of tension. The first comes from the dual governance structure of Chinese universities in which the president shares authority with the Communist Party secretary, with the potential to undermine the president's ability to lead the

30 Salmi 2009.

https://doi.org/10.1017/S0305741013000672 Published online by Cambridge University Press

institution in an autonomous fashion.[31] Mohrman, Wang and Li observe that greater autonomy has been accompanied by greater accountability through a high-stakes quality assurance system; universities are subject to a powerful form of steering at a distance.[32] Similarly, Mok observes that decentralization does not necessarily mean greater authority and decision-making power. In fact, the new governance strategies may create a more activist state rather than diminish state capacity.[33] The changing nature of government–university relations has resulted in some greater procedural autonomy for institutions, but has led to a narrowing of substantive autonomy.[34]

Academic freedom is the second area of tension identified by Altbach and Salmi, especially in sensitive areas of the humanities and social sciences.[35] In this respect, India has a powerful advantage over China, according to Levin, because professors have the freedom to pursue their intellectual interests wherever they may lead – a freedom that is an indispensible feature of any great university.[36]

Altbach and Salmi's third area of tension is pressure from local authorities on admissions for local students, a particular problem in places such as Shanghai where local governments have made substantial investments in their universities.[37] Thus, even the best Chinese universities do not meet all three of Salmi's standards for world-class universities.

Qinghua University is arguably the most successful Chinese university in terms of finances and status, yet its very success may hamper its quest for world-class status. Yang and Welch believe that Qinghua's uneven development between the social sciences on the one hand, and the natural and technological sciences on the other, may affect its international standing in the long term. The imbalance is historical in part, but is also a result of strategic decisions to link university development with national policy priorities.[38] This close partnership with government leads to two dilemmas. The first is academic autonomy. Yang and Welch ask, "How much does the intertwining of academia and officialdom … allow Tsinghua to maintain the independence critical to university development?"[39] The second dilemma stems from Qinghua's emphasis on applied rather than basic research, since basic research is considered by many to be the foundation for long-term innovation. As an institution known especially for its expertise in engineering, this is a particular issue for Qinghua.[40]

31 Altbach and Salmi 2011, 338.
32 Mohrman, Wang and Li 2011.
33 Mok 2005, 237.
34 Yang, Vidovich and Currie 2007, 590.
35 Altbach and Salmi 2011, 339.
36 Levin 2010, 74.
37 Altbach and Salmi 2011, 339.
38 Yang and Welch 2012, 9.
39 Ibid., 19.
40 Ibid.

https://doi.org/10.1017/S0305741013000672 Published online by Cambridge University Press

Are Chinese universities globally competitive? Xu Zhihong, former president of Beijing University, has stated that China does not have "world-first-class universities at the present time."[41] But, he might have added "not yet." China's investment in its leading universities is impressive, and the desire to meet global standards for academic excellence may well lead to greater academic freedom. The quality of Chinese universities, Beijing and Qinghua in particular, should make them increasingly competitive in the years ahead.

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41 Ibid., 2.

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