

Chinese Higher Education and (Humanities and Social Sciences) Research

**Testimony prepared for
U.S. – China Economic and Security Review Commission**

**Hearing on ‘China’s Challenges and Capabilities in Educating and Training the Next
Generation Workforce’**

Dr Xin Xu

Research Fellow at the Centre for Global Higher Education,
Department of Education, University of Oxford

14 February 2023

Thank you for this opportunity to contribute to conversations about Chinese higher education and research. This testimony addresses questions raised by the U.S.-China Economic and Security Review Commission. Key points include:

1. The governance of Chinese higher education and research is a combination of centralization and decentralization. While institutions and individuals have an increasing degree of autonomy in many dimensions, the central government has power over important aspects of higher education and research.
2. Humanities and social sciences research’s role in China has undergone significant changes throughout Chinese history. The past few decades have witnessed the increasing policy attention to humanities and social sciences research.
3. Chinese humanities and social sciences research oscillates between internationalization and indigenization.
4. Academic freedom for individual researchers in China faces tensions between individual pursuit of intellectual freedom, individuals’ commitment to the public good, control and influences from institutions and policy, and international influences.

1. The governance of Chinese higher education and research

The governance of contemporary Chinese higher education combines decentralization and centralization. While institutions and individuals have an increasing degree of autonomy in many dimensions, the central government has tightly held the real power.

1.1 Decentralization of governance

Since China's Reform and Opening Up in 1978, the Chinese government has been decentralizing its governance of higher education and research institutions. Decentralization happened in many areas. For instance, the first *Higher Education Law* published in 1998 devolved the management of universities from the central government to local governments, universities and non-state sectors. It regulated that local universities shall be under the governance of provincial governments, rather than national ones; and universities were designated as independent legal entities, which shall have autonomy in teaching, research, administration, etc.¹

Another example is the national college entrance examination (*Gao Kao*), the largest exam in the world that involved 11.9 million examinees in 2022.² Every high school graduate in China must pass the examination to enrol in higher or tertiary education institutions. When *Gao Kao* started in the 1950s, its contents, procedures and student recruitment were under the control of the Chinese central government. But over the past few decades, local governments and Chinese universities have gained increasing autonomy in deciding the contents and procedure of the examination. Many universities were also granted rights to conduct 'independent admission' prior to or in addition to *Gao Kao*, to admit students based on their own tests³.

In terms of funding, the central government has also been diversifying the funding bases for higher education institutions. This was initially done with the introduction of tuition fees. Along with the marketization in Chinese society, more and more private higher education institutions also emerged. Similar trends happened in research funding too. For Chinese researchers, there are mainly two types of research grants, namely 'vertical grants' (*zong xiang ke ti*) and 'horizontal grants' (*heng xiang ke xi*). The difference lies in the funding sources and research aims. 'Vertical grants' receive allocated or commissioned funding from the government and public sectors. 'Horizontal grants' receive funding from both the public and private sectors, and are mainly for knowledge transfer, technology services, and industry cooperation. The number and scale of 'horizontal grants' have been increasing over time.⁴

¹ Higher Education Law of the People's Republic of China (in Chinese). (1998). http://www.npc.gov.cn/wxzl/wxzl/2000-12/05/content_4712.htm.

² Record 11.9m students to take gaokao with full preparations under shadow of COVID-19. <https://www.globaltimes.cn/page/202206/1267415.shtml>

³ Han, S., Xu, X. (2019). How far has the state 'stepped back': an exploratory study of the changing governance of higher education in China (1978–2018). *Higher Education* 78, 931–946. <https://doi.org/10.1007/s10734-019-00378-4>

⁴ Gao, Z. (2013). A comparison between vertical and horizontal research projects [In Chinese]. *Economic Research Guide*, 197(15), 264–265.

1.2 Central government's control over higher education and research

Nonetheless, the central government still has fundamental power and control over higher education and research in China. One important mechanism to exert such influences is through publishing national policies, which set goals and plans for the development of Chinese higher education and research. Those policy documents' titles often started as *Suggestions*, *Opinions*, *Decisions* etc., but they have a law-abiding effect⁵. Although as noted, institutions and individual academics have much autonomy in many aspects, they tend to treat national policies as 'conductor's batons' to guide their practices.⁶

Changing policies on Chinese humanities and social sciences research

Regarding the development of Chinese humanities and social sciences (HSS) research, the government has issued many policies since the late 1970s, to encourage both the internationalization and indigenization of HSS research.

(a) The internationalization of humanities and social sciences research

The encouragement of internationalization was manifested by so-called 'going out' (*zou chu qu*) policies since the 2000s, which built on the economic strategy of 'going out' for overseas investment.⁷ The context was that while Chinese HSS research has been developing, it has not been internationalized to the same extent as the fast-growing STEM (Science, Technology, Engineering, Math and Medicine) research. According to the U.S. National Science Foundation Report (2022), China now ranks first globally in terms of the total number of international publications (primarily publications in the English language) in science and engineering, and second in terms of highly-cited publications.⁸ But HSS research in China shows a different picture. The world share of international publications from China was around 5% in 2018, a low ratio when compared to the U.S. (around 25-30%) and the U.K. (around 10%).⁹ The social sciences publications from China only accounted for 1.04 per cent of its international publications, in contrast to the high-performing science disciplines such as engineering (25.47 per cent of its international publications).¹⁰

To improve the visibility of Chinese HSS research in the world, enhance its internationalization level, and thus promoting the 'discourse power' of China, the government then issued a series of

⁵ Law, W. (2002). Legislation, education reform and social transformation: the People's Republic of China's experience. *International Journal of Educational Development*, 22, 579–602.

⁶ Xu, X. (2020). Performing under 'the baton of administrative power'? Chinese academics' responses to incentives for international publications. *Research Evaluation*, 29(1), 87-99.

⁷ Office of the State Council. (2006). *To further implement "Going-out" strategy [In Chinese]*. Retrieved from http://www.gov.cn/node_11140/2006-03/15/content_227686.htm.

⁸ US National Science Foundation. (2022). *The state of U.S. science and engineering 2022*. <https://ncses.nsf.gov/indicators>

⁹ Zhang, L., Shang, Y., Huang, Y., & Sivertsen, G. (2020). Toward internationalization: A bibliometric analysis of the social sciences in Mainland China from 1979 to 2018. *Quantitative Science Studies*, 1–33. https://doi.org/10.1162/qss_a_00102

¹⁰ US National Science Foundation. (2020). *The state of U.S. science and engineering 2020*. <https://ncses.nsf.gov/indicators>

policies to encourage the ‘going out’ of Chinese HSS research in the 2000s. In response to the ‘going out’ strategy, many Chinese universities had been encouraging and incentivizing HSS academics to publish internationally, collaborate internationally and be more proactive to engage with international research. The incentives mainly came in two forms: monetary bonuses and career-related incentives, both largely based on the number (quantity) of publications rather than the quality. Such incentives first appeared to encourage the internationalization of STEMM research, but a growing number of universities started to apply incentive schemes to HSS research under the influence of national policies. Universities had different incentive schemes. In general, STEMM international publications were rewarded or valued more than HSS international publications, and international publications were valued more than domestic publications. A publication in *Nature* or *Science* could lead to a bonus of one million RMB (around 146,000 USD) at some universities; while the highest bonus for a HSS international publication was 200,000 RMB (around 29,000 USD) at some universities.¹¹

(b) The indigenization of humanities and social sciences research

The other side of the coin is that the government has also been emphasizing the indigenization of Chinese HSS research. To understand the rationales, we need to first revisit the characteristics of HSS research: while in STEMM research, the use of English language is more common and research is less dependent on contexts, HSS research is rooted in local/national cultures, ideologies, languages and traditions. However, the infrastructure, norms and language in global HSS research is largely ‘Western’ (Anglo-European) dominated. For instance, in the widely used databases in the world – *Web of Science* and *Scopus* – more than 92 per cent of the indexed publications were published in English.¹² This means that for HSS researchers in non-Western countries, they are not in a level-playing field when engaging with ‘global’ HSS academia. For Chinese HSS academics for example, they could face multi-layered discrimination and bias when participating global knowledge production. The bias could be based on their ethnicity, nationality, use of language, research paradigm and questions, assumed ideological positioning, assumed cultural attachments, etc.

In China, the situation is further complicated by historical contexts. Historically, the role of HSS has experienced several major changes. For thousands of years, humanities had been vital in Ancient Chinese scholarships. Students and academicians at that time need to be knowledgeable in Chinese classics (with Confucianism as one major school of thoughts) to pass the *Ke Ju* (the

¹¹ Xu, X., Rose, H., & Oancea, A. (2019). Incentivising international publications: Institutional policymaking in Chinese higher education. *Studies in Higher Education*, 1–14. <https://doi.org/10.1080/03075079.2019.1672646>

¹² Vera-Baceta, MA., Thelwall, M. & Kousha, K. (2019). Web of Science and Scopus language coverage. *Scientometrics* 121, 1803–1813. <https://doi.org/10.1007/s11192-019-03264-z>

Imperial Examination to select civil servants), and then to become state officials – a much-aspired occupation then.¹³

But the first major change occurred with the Western invasion in the 19th century, when Chinese people started to shift their attention from traditional Chinese scholarships to Western ‘sciences’ – as the latter were perceived as symbols of modernization and advancement. Since then, the development of Chinese HSS research has borne Western imprints. Many of the social sciences disciplines were established and institutionalized following Western theories, norms and methods. Traditional Chinese scholarships, in comparison, received gradually less attention. . HSS research were also valued less than sciences.¹⁴

Since the establishment of P.R.China in 1949, HSS research first experienced a high degree of politicization and censorship during Mao’s era (including during the Cultural Revolution), and became detached from the world. Then since the Reform and Opening-up in 1978, the rehabilitation of HSS started. While Deng Xiaoping and the Chinese government then emphasized that HSS research was important, the policies started with focusing on the development of STEM subjects as drivers for economic growth. While HSS research was developing, it did not receive the same level of attention or support as science subjects. The internationalization of Chinese HSS at that time was also one-way borrowing and learning from the West.¹⁵

It was not until the 2000s, that the government started re-emphasizing the importance of HSS research to Chinese society, the importance of Chinese traditions and cultures, and the importance of upholding Chinese ideologies. In Xi’s China, traditional Chinese values and philosophies have been more repetitively emphasized in policies, some of which underpinned important policy discourses. For instance, the discourse on ‘the community with a shared future for humankind’ has taken roots in the traditional Chinese philosophical belief that ‘all under heaven are of one family’.¹⁶

Since the Reform and Opening-Up, there have been long-standing debates in policy and academic discourses, about whether HSS research should be internationalized, to what extent it should be internationalized, and what are the risks to its indigenization (e.g. some academics were concerned about the ‘self-colonization’ of Chinese HSS research through internationalization¹⁷). Throughout the years, the central government has emphasized repetitively

¹³ Xu, X. (2021). A policy trajectory analysis of the internationalisation of Chinese humanities and social sciences research (1978–2020). *International Journal of Educational Development*, 84. <https://doi.org/10.1016/j.ijedudev.2021.102425>

Yang, R., Xie, M. & Wen, W. (2019). Pilgrimage to the West: modern transformations of Chinese intellectual formation in social sciences. *Higher Education*, 77, 815–829. <https://doi.org/10.1007/s10734-018-0303-9>

¹⁴ *ibid*

¹⁵ *ibid*

¹⁶ *ibid*

¹⁷ Dang, S. (2005). Can American standards set the highest evaluation benchmark for Chinese Social Sciences? – Take SSCI as an example [In Chinese]. *Social Sciences Forum*, 4, 62–72.

in policies that Chinese HSS research should not be completely ‘Westernized’; rather, it emphasized that Chinese HSS research should be rooted in Chinese cultures and traditions, guided by Marxism ideologies with Chinese characteristics, and bring impacts on contemporary China.¹⁸

In addition to issuing policies, China has developed its own scientific indices – such as CSSCI (Chinese Social Sciences Citation Index) – that indexes a bulk of selected Chinese scholarly journals. China has established an independent HSS research institution, the Chinese Academy of Social Sciences (CASS), and has established many reputable domestic scholarly journals. The dominant language of publication in China’s humanities and social sciences research remains Chinese. There are large bodies of research published in Chinese each year that were not visible to the world, since they were not translated into other languages or indexed by the Web of Science/Scopus.¹⁹ The quality of Chinese publications in HSS varies journal by journal, publication by publication; but in terms of academic rigour and quality, there exists research of high quality. Unlike in science and engineering, where high-quality research has mostly been published in English, many of the high-quality scholarships in HSS are still being published in Chinese. China has also developed its own world university ranking – the Academic Ranking of World Universities (ARWU, also known as Shanghai Jiaotong University Ranking, or Shanghai Ranking), which is considered by many as the forerunner of world university rankings. All demonstrate persisting efforts to develop Chinese research in Chinese terms and to Chinese standards.

In 2020, the government issued a series of policies to reform research evaluation in China, to stop valuing only papers, hats (meaning academics who are part of talent programmes), titles, diplomas, and prizes in research evaluation – termed as ‘breaking down five-onlys’ (*po wu wei*). The policies firmly abolished incentives and monetary bonuses for international publications, to stop the ‘worship of SCI publications’ (meaning over-valuing publications in international journals indexed by the Science and Citation Index (SCI)), to encourage the development of Chinese journals and indices, and to value quality over quantity in research evaluation. The policy also explicitly maintained that HSS research should not ‘deliberately dwarf or vilify China’ or ‘damage national sovereignty security and national interests’ for the sake of publishing internationally.²⁰ These policies also argued that Chinese researchers should ‘write papers on the homeland’ (quoting words from a speech by President Xi Jinping in 2016)²¹. All of these policies indicated stronger signals and pushes for the indigenization of Chinese (HSS) research.

¹⁸ Xu, X. (2021). A policy trajectory analysis of the internationalisation of Chinese humanities and social sciences research (1978–2020). *International Journal of Educational Development*, 84. <https://doi.org/10.1016/j.ijedudev.2021.102425>

¹⁹ Zhang, L., Shang, Y., Huang, Y., & Sivertsen, G. (2020). Toward internationalization: A bibliometric analysis of the social sciences in Mainland China from 1979 to 2018. *Quantitative Science Studies*, 1–33. https://doi.org/10.1162/qss_a_00102

²⁰ Ministry of Education. (2020). Opinions on eliminating the unhealthy ‘paper-only’ orientation in the evaluation of humanities and social sciences research in higher education institutions [In Chinese] http://www.moe.gov.cn/srcsite/A13/moe_2557/s3103/202012/t20201215_505588.html

²¹ ScienceNet. (2016). *Xi Jinping: Write papers on the homeland [In Chinese]*. <https://news.sciencenet.cn/htmlnews/2016/6/348350.shtm>

Consequently, institutions have to stop providing monetary bonuses for international publications, and individual researchers now have more choices of whether to engage more internationally or domestically. Some researchers suggested that the recent policy shift may slow down China's research internationalization or decouple it from international collaborations. But my understanding is that the internationalization process will not stop. China's research has been facing tensions between internationalization and indigenization throughout the years. Consequently, the oscillations between being open to the world and being more nationally/locally oriented have been in play for many years. The current shift was more of an attempt to strike a balance between international and Chinese research, so that Chinese research and higher education do not become over-Westernized, or over-emphasize quantity rather than research quality.

In addition, research activities operate not only at the national scale but also at the global scale. While research is often dependent on funding, affiliation and infrastructure within nations, researchers are not bounded by single countries. Research networks can exist beyond nations, and are dependent on the agency of researchers.²² Therefore, researchers and institutions in China with existing ties and interests in international collaborations may continue their engagements globally despite the policies. However, those who did not had the interest or need for international publications or collaborations can now choose more freely where to publish etc. This may reduce tokenistic behaviours in research, making institutions and academics pay more attention to research quality and integrity.²³ Nonetheless, because of the lag between research being conducted and published, we will need to follow up with the evidence in the next few years, to see how these policies influence the international engagements of Chinese (HSS) researchers.

National funding for higher education and research

Another important example of the government's influence is that national funding for higher education and research still plays a central role in the sector. The most prestigious universities in China are largely public (and research-intensive) universities funded by the government. The most important national higher education programme in China is now the Double First Class University Programme, which aims to build both first-class universities and first-class disciplines. It was launched in the late 2010s to replace the previous 985 and 211 programmes, which were initiated in the 1990s with similar goals to build world-class universities.²⁴ Universities and respective disciplines selected to join the Double First Class University

²² Marginson, S. (2022). What drives global science? The four competing narratives. *Studies in Higher Education*, 47(8), 1566-1584.

²³ Xu X. (Forthcoming). Research evaluation in China: Policy, practice and prospects. In Oancea A., Derrick G., Xu X., Nuseibeh N. (eds.), *Handbook of Meta-Research*. Edward Elgar Publishing.

²⁴ Ministry of Education, Ministry of Finance, & National Development and Reform Commission. (2017). Releasing the lists of "world first-class universities" and "world first-class disciplines" [In Chinese]. http://www.moe.gov.cn/srcsite/A22/moe_843/201709/t20170921_314942.html

Programme would enjoy higher prestige, abundant funding from both national and local governments, and more resources and support in many aspects.²⁵

One important change from the 985/211 programmes to the Double First Class University Programme was a shift from ex-ante assessment to performance-based funding. This means that now universities selected to join the Programme would be evaluated every few years. Only those who keep performing well will remain in the Programme.²⁶ The assessments focus on six dimensions: students' cultivation, teaching, research, social service, the inheritance and innovation of Chinese culture, and international exchange and collaborations.²⁷ In this way, the central government keeps playing important roles in assessing and assuring the quality of higher education and research in China.

The government's influence also showcases in research funding. Despite the growth of 'horizontal grants' over the years, 'vertical grants' funded or commissioned by the government are still regarded as the most rigorous, competitive and prestigious. Some of the funding schemes would signal directions of research the government encourages. For example, there has been a growth of nationally funded research grants in Marxism and the history of the Chinese Communist Party over the past decade.²⁸

2. The role of Chinese (humanities and social sciences) academics

Chinese academics have a unique relationship with institutions and governments. To unpack the complexity, we need to again delve back into Chinese history. For thousands of years in Ancient China, Confucian intellectuals had perceived themselves as having responsibilities to contribute to society, ensure social order and the stability of the nation, and be dedicated to benevolent governance.²⁹ As Neo-Confucian Tu Weiming suggested:

Confucian followers were primarily action intellectuals, deeply immersed in “managing the world” (*jingshi*) of economics, politics, and society. Their strategy was to transform the world ... through culture, specifically through moral education. ... Confucian

²⁵ Han, S., Xu, X. (2019). How far has the state 'stepped back': an exploratory study of the changing governance of higher education in China (1978–2018). *Higher Education* 78, 931–946. <https://doi.org/10.1007/s10734-019-00378-4>

²⁶ Ministry of Education, Ministry of Finance, & National Development and Reform Commission. (2017). Releasing the lists of “world first-class universities” and “world first-class disciplines” [In Chinese]. http://www.moe.gov.cn/srcsite/A22/moe_843/201709/t20170921_314942.html

²⁷ Ministry of Education, Ministry of Finance, & National Development and Reform Commission. (2020). *Notice on publishing the “Methods to evaluate the effectiveness of the ‘Double First Class Programme’ (pilot)”* [In Chinese]. http://www.moe.gov.cn/srcsite/A22/moe_843/202103/t20210323_521951.html

²⁸ Huang, H., Zhou, Y. (2021). Research on Changing Trend of Distribution of Social Science Research Forces: Based on Statistical Analysis of National Social Science Fund in the 13th Five Year Plan [In Chinese]. *Science and Technology Management Research*, 19: 204-210.

²⁹ Zha, Q., & Shen, W. (2018). The paradox of academic freedom in the Chinese context. *History of Education Quarterly*, 58(3), 447-452.

scholar-officials were perceived of as the conscience of the people, for they served the long-term well-being of the entire country.³⁰

Not every academic in contemporary China still embraces traditional Confucian values. But the tradition is influential. Arguably, a higher proportion of Chinese academics – particularly those in humanities and social sciences – could be more interested in contributing to institutional and national policy making than their colleagues in many other countries. As Zha and Shen discussed in their article:

Academic freedom that is a “totem” for the vast majority of American scholars may not necessarily be highly expected for some Chinese scholars, and they may sacrifice their faith in academic freedom to serve the interests of the people and the government. ... Chinese universities and scholars are enthusiastic about instituting public policy think tanks on campus and having government officials and leaders recognize their work.³¹

Indeed, in many Chinese universities, if academics’ suggestions and reports submitted to governments (national, provincial, local) received substantive feedback or approval, these would be counted as research outputs and/or be rewarded.³²

The compliance with the national agenda can be partly attributed to a willingness to contribute to the public, but it could also be the results of the governance structure and mechanism of higher education and research. For example: as discussed earlier, the importance of the Double First Class University Programme and the importance of nationally funded research projects mean that institutions and individual academics need to follow criteria set by the national government in their operation, research and teaching. As noted earlier, this is reflected in topics in nationally funded research. Research also found that among Chinese publications, there has been a tendency for academics to ‘chase the (research) hotspots’ influenced by national policy orientations and discourses.³³

Nonetheless, the Confucian knowledge tradition is not all about obedience. Paradoxically, Confucian learning highlights the importance of free thinking and free handling of academic affairs. Some important traditional Chinese academies, such as *shu yuan*, were also privately funded and operated to ensure freedom of thinking. Some leading universities in contemporary

³⁰ Tu, W. (2005). “Intellectuals in a World Made of Knowledge,” *Canadian Journal of Sociology* 30, no. 2 (Spring), 200. Cited from: Zha, Q., & Shen, W. (2018). The paradox of academic freedom in the Chinese context. *History of Education Quarterly*, 58(3), 447-452.

³¹ Zha, Q., & Shen, W. (2018). The paradox of academic freedom in the Chinese context. *History of Education Quarterly*, 58(3), 447-452.

³² For instance: Rewards for think tank outputs at Beijing Forestry University [In Chinese]. <https://kyc.bjfu.edu.cn/gsgg/xxxg/382872.html>

³³ Xu, J. (2006). New development of research on Chinese higher education internationalisation [In Chinese]. *Heilongjiang Researches on Higher Education*, 152(12), 4–9.

China, like Peking University and Fudan University, also exemplified the ethos of academic freedom and autonomy during various historical periods.

Conflicts between the need to pursue knowledge freely and the desire to be dedicated to nation-building can lead to a paradoxical situation for Chinese academics. In my interviews with 75 HSS academics, administrators and editors in China from different institutions, they expressed various attitudes and responses to national and institutional policies. Some of the responses were supportive, while some were resistant. HSS academics reported having more academic freedom in certain areas, such as in deciding teaching content. But some reported having less space for academic freedom, if their research topics could be deemed politically sensitive. Before the abolishment of incentives for international publications, some academics also felt pressured to publish internationally, since their research scope and interest spoke more to local contexts rather than international ones, or the language of their research should be in Chinese rather than in English.³⁴

Academic freedom in terms of international engagement, mobility, communication and engagement is another issue worth noting. The limitations on academic freedom apply not only to Chinese academics, but also international academics working in China. For instance, previous interviews with international academics in China revealed that participants in HSS disciplines more often reported limitations in academic freedom than academics in other disciplines. International academics also reported issues about Internet censorship, which is another challenge academics and students generally face in China. But the access to Internet vary across institutions – institutions with higher prestige and more active international activities tend to have institutional VPNs to pass the firewalls.³⁵

In the past few years, Chinese academics and institutions' engagements with the world have also been influenced by many other factors: the COVID-19 pandemic and consequent issues (e.g. lockdowns, online teaching and working); the geopolitical tensions between China and the U.S., which started before the pandemic and became even intensified during the pandemic; the political trends towards more nationalist framing in many parts of the world; and the anti-racism and decolonial movements in many parts of the world. For example, research found that the racial profiling among Chinese scientists in the U.S. among the geopolitical tensions had been negatively impacting China-U.S. research collaborations.³⁶ As discussed earlier, researchers can be influenced by both national structures, and international communities and networks. Therefore, it is worth noting these influences beyond national borders. Unfortunately though, we

³⁴ Xu, X. (2020). Performing under 'the baton of administrative power'? Chinese academics' responses to incentives for international publications. *Research Evaluation*, 29(1), 87-99.

³⁵ Xu, X., Braun Střelcová, A., Marini, G., Huang, F., & Cai, Y. (2022). International academics in mainland China: what do we know and what do we need to know?. *European Journal of Higher Education*, 12 (sup1), 416-433.

³⁶ Li, X. & Lee, J.J. (2022). US–China Geopolitical Tensions: Implications for Universities and Science. *International Higher Education*, 10: 21-22.

will need to wait for solid evidence about the impacts of these events on China's research in the next few years.

3. Policy recommendations

Based on these discussions, I would like to propose two recommendations:

1. It could be helpful to deepen understanding of Chinese higher education and research. China is much more knowledgeable about U.S. higher education and research, than the U.S. is about China. China's knowledge about the U.S. came from both the historical influence the U.S. has had on its higher education (as noted earlier), but also the interest to learn from and about the U.S. Nonetheless, there are several challenges for the U.S. to understand China better:

- Language is the first challenge. Most Chinese students and academics (particularly in research-intensive universities) are now bilingual, meaning they can access both the English-speaking world and the Chinese-speaking world, but this is not the same case in the U.S. Often, information available in English about China does not provide the full picture. Also as discussed earlier, much of HSS research in China has been published in the Chinese language.
- Culture is another challenge. Here, culture can refer to political culture, traditional culture, social culture, etc. Because of the vast differences between China and the U.S. in all these forms of culture, it could be difficult to fully understand one another; although China is perhaps more familiar with Western cultures than the U.S. is familiar with Chinese cultures. In the previous discussion, I have been tracing back to Chinese history and tradition to provide clearer explanations on issues like academic freedom and the role of HSS; but in fact, almost all issues in contemporary Chinese higher education have historical influences and roots. Some of them seem to be paradoxes, but they are the reality. The existence of paradoxes also challenges binary thinking.
- The final challenge is the complexity of the Chinese higher education and research system. Like the U.S., a great degree of heterogeneity exists within Chinese higher education – such as geographical differences, institutional stratification, disciplinary diversity, and individual variations. This makes it difficult to understand the system comprehensively. Furthermore, Chinese higher education and research are also fast evolving, meaning it would need to be followed closely to understand the whole development trajectory.

Despite the differences, there are many similarities and common grounds shared between China and the U.S., mainly because of China's internationalization of higher education and research. To address the challenges noted above, there might be potential needs in the U.S. government for people who have Chinese language capacity, a good understanding of Chinese culture, the

willingness to learn about a complex and fast-changing system, and the willingness to apply not only the U.S. framework to understand China, but understand China through the China's lenses.

2. It could be helpful to think further about the collaboration and partnerships with China in higher education and research, particularly in HSS research. Regardless of how the U.S.-China relationship unfolds in the future, the two countries are undeniably science giants in the world with close collaboration ties. For example:

- The U.S. and China combined produce 39% of the worldwide science and engineering publications.³⁷ China is the U.S.' largest collaborator in terms of scientific publications, and vice versa.³⁸
- The U.S. is still the top destination for Chinese students who choose to study abroad. Students from China still constitute the largest number of international students in the U.S., many of whom are postgraduate/doctoral students conducting research in the U.S. When they stay in the U.S. after graduation, they form a large group of the high-skilled workforce; and when they move back to China or move to other countries, personal and professional ties with the U.S. would not disappear.³⁹

It is acknowledgeable that research collaborations in HSS could face more restrictions and challenges than in STEMM. However, it could still be a loss of opportunities for both China and the U.S., if both sides stop collaborating with each other. As discussed, China's HSS research has been internationalized while keeping Chinese characteristics. This has two implications. First, it is perhaps important to understand that China would keep developing its higher education and research with its own pathway, rather than following entirely Western frameworks. Therefore, Chinese higher education and research would not completely replicate Western patterns. Secondly, it means that the Chinese HSS can contribute to global HSS research with its distinct knowledge and perspectives. Moreover, it would be helpful to note that although academics are influenced by national policies, they are not bounded within national borders, but can operate internationally. If understanding better the seemingly paradoxical situation of researchers, more mutually-beneficial collaborations might be formed on the basis of equality and mutual respect.

³⁷ US National Science Foundation. (2022). *The state of U.S. science and engineering 2022*. <https://ncses.nsf.gov/indicators>

³⁸ Nature Index. <https://www.nature.com/nature-index>

³⁹ UNESCO. <https://uis.unesco.org/en/uis-student-flow>