China’s Research Evaluation Reform: What are the Consequences for Global Science?

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Abstract  In the 1990s, China created a research evaluation system based on publications indexed in the Science Citation Index (SCI) and on the Journal Impact Factor. Such system helped the country become the largest contributor to the scientific literature and increased the position of Chinese universities in international rankings. Although the system had been criticized by many because of its adverse effects, the policy reform for research evaluation crawled until the breakout of the COVID-19 pandemic, which accidently accelerates the process of policy reform. This paper highlights the background and principles of this reform, provides evidence of its effects, and discusses the implications for global science.

Keywords  China · Global science · Research evaluation · Policy · Reform

Introduction

In parallel with the exponential growth of its economy, China’s emergence in science and technology has had a far-reaching impact on global science. In 2017, China has surpassed the US and became the largest source country in terms of the number of scholarly papers (National Science Board 2018), and its R&D expenditures are almost on par with those of the US (543 vs. 582 billion USD in 2018) (UNESCO
Institute for Statistics 2018). Such growth in international research output can be associated with the implementation of China’s national strategy of science and education, in which science, technology and education are given priority in the national development plan (National People’s Congress of the People’s Republic of China 2007). The key elements of the national strategy include the increasing investment in R&D and promotion of internationalisation of research (Marginson 2021). It is also partly attributed to the creation of a SCI-based research evaluation system, favoring publications indexed by the Science Citation Index (SCI). Since the 1990s, the number of such international publications as well as other related bibliometric indicators (e.g. Journal Impact Factors (JIF), Essential Science Indicators (ESI), etc.) have been overweighed in research evaluation, tenure assessment, funding application as well as performance salaries in China (Quan et al. 2017; Shu et al. 2020a) to develop China’s leadership in global science.

In China, SCI-based indicators are applied to research evaluations at both individual and institutional levels. However, they have been criticized for their negative effects on academic integrity (Quan et al. 2017; Tang 2019) and national knowledge dissemination (Chu et al. 2015; Duan et al. 2015; W. Li et al. 2015; C.-e. Liu 2018; Yanyang Liu et al. 2003; X. Wang 2012; Jiping Zhang 2019; Zhu 2020; Zou and Zhang 2017) for several years. A policy reform against indicator-based research evaluation has also been called for a long time (L. Zhang and Sivertsen 2020). As early as 2011, Ministry of Education (MoE) issued a document regarding the change of research evaluation in social sciences and humanities (Ministry of Education of China 2011). The policy reform even gained the attention from China’s leaders; in 2016, China’s Chairman Xi (2016) asked Chinese scientists to “publish papers on homeland”. As a response in 2018, MoE, Ministry of Science and Technology of China (MoST), Ministry of Human Resource and Social Security (MoHRSS), Chinese Academy of Science (CAS), and Chinese Academy of Engineering (CAE) issued a joint document asking universities and research institutes not to abusively use indicators relative to papers, titles, ranks, degrees and awards (Ministry of Education of China 2018). However, significant changes were not observed in China’s research evaluation system, and SCI-based indicators have still been abundantly used.

Perhaps unexpectedly, a real change to the SCI-based evaluation system was triggered by the outbreak of the COVID-19 pandemic, when Chinese researchers prioritized publication of findings on the new coronavirus in international journals (Huang et al. 2020; Q. Li et al. 2020) rather than national journals, which would have helped disseminating them to those who were fighting the pandemic (Ministry of Science and Technology of China 2020a). The publication of these two articles aroused public anger and was accused of delaying the control of the pandemic (An 2020; Du 2020; Qin 2020). In response to this (H. Li 2020; Yan Liu 2020), MoST and MoE issued two official documents in February 2020 that aim to reshape scholarly communication and research evaluation in China (Ministry of Education of China and Ministry of Science and Technology of China 2020a, b; Ministry of Science and Technology of China 2020b), which attempt to overcome the abusive use of SCI-based indicators on research evaluation (Quan et al. 2017; Shu et al. 2020a) and build a new scientific research evaluation system.
China’s Research Evaluation Reform: What are the Consequences

As the largest contributor, China publishes almost one fourth of scientific literature and one fifth of international collaboration (ISTIC 2020). The possible impact of China’s research evaluation reform on global science has been of concern (Mallapaty 2020). In this study, we highlight the principles of policy reform as well as their background, and analyze the possible implications for global science.

Policy Reform

The two documents issued by MoE and MoST contain seven major measures, which can be divided into three aspects of scholarly communication and research evaluation as shown in Table 1.

Table 1  Seven measures introduced by the Chinese MoST and MoE

| Farewell to the SCI |
|--------------------|
| SCI-based indicators cannot be directly applied to research evaluation such as tenure assessment, graduation requirement, monetary awards and other related activities. |
| Improve the peer-review system as the replacement for SCI-based indicators in research evaluation. |

| Priority to National Dissemination |
|----------------------------------|
| Instead of the number of publications, representative works will be used in research evaluation; 1/3 of representative works should be published in national journals |
| Build high-quality national journals through the China Science and Technology Journal Excellence Action Plan (CSTJEAP). This includes creating new national journals in English, improving English abstracts of Chinese journals, constructing China science citation index, and encouraging funded papers to be published in national journals. |
| Only high-quality publications (HQP) can be counted in research evaluation. HQPs include papers published in national journals admitted to CSTJEAP, or top international journals or conference proceedings of a given discipline. |

| Restrictions for Open Access Publishing |
|-----------------------------------------|
| Build a black list of all predatory journals. |
| Forbidden to use research funding to pay the APCs except for high-quality publications (HQP). |
SCI-based indicators were introduced in the 1990s when the country initiated its ambitious plan to embrace the global science. Nanjing University was the first university to use SCI papers for research evaluation, and topped China’s university rankings afterwards. SCI-based indicators then spread across the country, as research administrators regarded them as a solution to increase China’s share of international publications (Qiu and Ji 2003). Many Chinese scholars also believed that SCI-based indicators were fairer than peer review, which was considered to be biased by personal relationship and seniority in China (Shi and Rao 2010).

In order to promote university research, three national programs (i.e., Project 211, Project 985, and Double First Class) have been initiated one by one since the 1990s. These programs provide substantial financial support to a small group of selected universities, and one key admission requirement is the number of international publications (Shu et al. 2020b). To encourage scholars to publish internationally and improve their rankings, Chinese universities apply the SCI-based indicators that have, since then, been considered as the gold standard in China’s research evaluation. SCI papers became mandatory requirements for doctoral degrees, faculty hiring and promotion, funding applications, and university rankings. Publishing in a subset of SCI-indexed elite journals leads to major research funding, as well as additional rewards, such as promotion from assistant to full professor, appointment as Chair or Dean, and even to university president (Shu et al. 2020a). Cash-per-publication policies have also been widespread, leading to additional revenues of up to 1 million CNY per paper (150,000USD) (Quan et al. 2017).

The strong pressures to publish in SCI journals may lead to the effect of goal displacement (Frey et al. 2013; Osterloh and Frey 2014) which the Chinese government became acutely aware of at the outbreak of the pandemic. The purpose of research for some Chinese institutions and scholars is not to advance knowledge, but rather to improve their rankings and indicators, even at the cost of research integrity (Tang 2019). Indeed, over the last two decades, along with the growing number of international publications from China, cases of academic misconduct (plagiarism, academic dishonesty, ghostwritten papers, fake peer review, etc.) have also increased (Jia 2017; Hvistendahl 2013). The scale of academic misconduct cases evolved from individual cases to “paper mills” (Chawla 2020; Else and Van Noorden 2021). In this context, it is not surprising that the number of China’s retracted papers has been increasing in the past two decades, and China has the largest number of retracted papers, contributing to 24% of all retracted papers (490/2,061) in 2020, followed by the US (122) and Iran (79) as reported by Web of Science (Figure 1). Figure 1

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1 Although the first Chinese scientific development plan (Project 863) started in 1986, the milestone of China’s scientific development is Xiaoping Deng’s (China’s former leader) declaration “Science and technology are primary productive forces” in 1988, which has guided China’s scientific development in several decades. In 1993, China legislated the first version of the Law of the People’s Republic of China on Science and Technology Progress; in 1995, China initiated the national strategy of “invigorating China through the development of science and education”. As a result, Project 211 and Project 985 were launched in 1995 and 1998 respectively.
also shows that the share of China’s retractions to all retractions across the world has been higher than the share of China’s publications to all publications worldwide since 2004.

Priority to National Journals

SCI-based evaluation policies have created incentives for Chinese scholars to publish their research in international journals rather than in national journals (Zou and Zhang 2017; C.-e. Liu 2018). In China, however, international journals are less accessible than national Chinese journals due to the paywalls and language (Schiemeier 2018). As a result, dissemination of findings to the international scientific community comes at the expense of the national Chinese community (Larivière et al. 2020), and this was clearly observed at the outbreak of the pandemic, when Chinese scholars disseminated their findings on human-to-human transmission of coronavirus internationally rather than nationally. Local health practitioners were not informed by their colleagues, but aware of such a crucial finding from the paper (Q. Li et al. 2020) published in the *New England Journal of Medicine* (Du 2020; Qin 2020; Wuhan Municipal Health Commission 2020).

Since the end of World War II, dissemination of science has been dominated by English, leading to a corresponding decrease for other languages (Larivière and Warren 2019). This was also observed for papers published in Chinese, as the number of national publications indexed by China Scientific and Technical Papers and
Citation Database (CSTPCD)\textsuperscript{2} started to decrease in 2010 (Figure 2). In some disciplines such as Condensed Matter Physics, Applied Mathematics, or Crystallography and Electrochemistry, Chinese scholars even give up publishing papers in local Chinese journals (Shu et al. 2019). Some Chinese scholars argue that publishing internationally prevents knowledge dissemination through national journals (Zou and Zhang 2017; C.-e. Liu 2018). Indeed, in 2019, Chinese researchers have published more papers internationally than they have nationally for the first time.

This can also be observed at the ownership shares of international journals: while Chinese researchers contribute to about 25\% of international literature, less than 2\% of these international journals are owned by Chinese publishers (ISTIC 2020). Such imbalance has been noted by China’s leaders, with Chairman Xi requesting that scientists publish nationally (Xi 2016). As a response (Ministry of Science and Technology of China 2020a), the reform gives emphasis to national scholarly communication by requiring researchers to publish at least one third of their papers in national journals.

\textbf{Figure 2} Number of national and international publications in China (1995–2019) (National Bureau of Statistics of China 1996–2019)

\textsuperscript{2} CSTPCD, developed by the Institute of Scientific and Technical Information of China (ISTIC) in 1987, indexes more than 2,000 national scientific journals for the purpose of research evaluation of China’s scientists and engineers. The number of papers indexed by CSTPCD and number of Chinese papers indexed by SCI, representing national and international publications respectively, are reported in annual \textit{Statistical Data of China’s S&T Papers}, and included in the \textit{China Statistical Yearbook}. 

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Restrictions to Open Access Publishing

Despite limited access to subscription journals (Schiermeier 2018), open access (OA) publishing remains controversial in China. Papers published in OA journals are often valued less as those published in subscription journals, and are even excluded from research evaluations. This can be attributed to the perception that OA journals are predatory and perform very little peer review (Li 2006; Xu et al. 2018; Liu and Huang 2007).

Despite this perception, the percentage of Chinese papers published in Gold OA journals has been increasing from 4.9% in 2008 to 30.0% in 2020 in the dimensions.ai database. This percentage is higher than that of the United States (20.5%) and the United Kingdom (21.5%), on a par with that of Japan (30.4%), but remains lower than that of Brazil (55.3%), which publishes mainly in the non-APC journals indexed by its national platform, SciELO. China is, however, among the countries with the lower share of hybrid OA (around 2%), which suggests that paying APCs in subscription journals is not rewarded. The main reason for Chinese scholars to choose OA journals is not research impact or global reach, but whether the journal is indexed by WoS (Xu et al. 2020). Commercial publishers have taken advantage of such focus on WoS, and created low quality journals with nominal or no peer review and quick acceptance (Xia et al. 2017). For example, IvySpring International Publisher, an Australian OA publisher, has four journals indexed by WoS; almost two thirds of papers published in 2018 were contributed by Chinese authors.

As most OA journals are published outside China, it is believed that a large amount of research funding is lost through APCs (Liu 2018). A list of APCs (in 2018) of all OA journals indexed by Web of Science was collected and built in this study. The number of APC paid, and APC revenue generated were calculated on the basis of first affiliated institution in the byline and regular APC rate. Although the APCs are normally billed to the corresponding authors, Chinese scholars only can receive the reimbursement of APC payments when their affiliated institutions are ranked first in the byline. In 2018, the 89,165 OA papers (Gold and Hybrid OA indexed by WoS) published by Chinese institutions as the first affiliated institution incurred around 165 million USD APCs as calculated. Springer Nature generated more than 33 million USD revenue from APCs in China, followed by MDPI (29 million USD), Frontiers (15 million USD) and Hindawi (15 million USD), which focus on the OA publishing (Figure 3).

Discussion

Since the 1990s, the number of international papers indexed by SCI has been applied to research evaluation in China to increase the international visibility of China’s research (Gong and Qu 2010; Quan et al. 2017). In addition to the research evaluation policies, monetary incentives and performance bonus are also used to encourage Chinese scholars to publish SCI papers (Peng 2011; Quan et al. 2017; Shu et al. 2020a), eventually forming a SCI-based research evaluation system in which SCI-based indicators become the most important criterion...
in tenure assessment, funding application, university ranking and other research assessment activities (Quan et al. 2017; Zhao and Ma 2019; Shu et al. 2020a). As a result, Chinese scholars, especially in Natural Sciences, are required to publish SCI papers for their tenure and promotion as university and research institutes rely on such SCI-based indicators for their ranking and funding records (Shu et al. 2020a; Wang and Li 2015).

Although the SCI-based research evaluation system partly contributes to China’s rise in global science, the abusive use of SCI-based indicators in research evaluation has been criticized for a long time since international publications only do not adequately represent China’s research activities (Guan and He 2005; Shu et al. 2019; Jin and Rousseau 2004; Jin et al. 2002; Liang and Wu 2001; Moed 2002; Zhou and Leydesdorff 2007). Some scholars even point out that the increase of international publications may come at the expense of dissemination of research to local Chinese communities (Zou and Zhang 2017; Xu 2020; Liu 2018), considering many international publications are less accessible in China because of the paywalls and language barriers. Indeed, the number of local national publications in China has been declining in the past decade as Chinese scholars have published more international publications than local national publications since 2019 (ISTIC 2021).

In addition, the SCI-based research evaluation brings a negative goal displacement effect (Frey et al. 2013; Osterloh and Frey 2014) as the purpose of publishing for some Chinese scholars is not to advance and disseminate knowledge but to complete the research evaluation and receive monetary awards (Quan et al. 2017), forming a different reward system of science (Merton 1973, 1957). Furthermore, with the growth of the number of international publications, the number of academic misconducts such as plagiarism, paper mills, fake peer review and so on have also been

![Figure 3 Publishers’ share of China’s OA publishing (2018)](image-url)
increasing in China, which seriously affects China’s academic reputation (Hu et al. 2019; Tang 2019).

Although a science policy reform regarding the SCI-based research evaluation has been called for several years, the SCI-based indicators are still favored by research administration. China’s research evaluation policy is trapped in a dilemma of antinomy (Zhou and Zhang 2017)—some official documents against the use of SCI-based indicators were issued while some research programs using SCI-based indicators were still promoted (Zhao and Ma 2019).

Implications

The new policy by MoST and MoE aims to create a rebalance contributing to global science and supporting national interests. This will not only affect Chinese scholars but the international research community, as China is the largest source contributor to scientific literature. However, no immediate changes to Chinese researchers’ dissemination practices have been noticed over the last eighteen months as Chinese scholars published 590,649 papers indexed by WoS in 2020, reaching its historical high.

What are the Alternative Research Evaluation Criteria?

Although both MoST and MoE intend to say farewell to SCI-based evaluation, they did not reveal how to achieve this beyond general principles. The two ministries delegated this responsibility to provincial departments, which have to design new evaluation systems based on those principles. Considering the top-down administration model in China that officials get used to implementing the policies and executing the orders from the top, it is hard to imagine that the provincial departments could formulate any detailed policies regarding the new evaluation system in a short term. In the following 12 months, all 31 provincial divisions (including 22 provinces, 4 municipalities and 5 autonomous regions) answered the call from MoST and MoE, but in different ways. According to the documents collected in this study, 16 Provincial Departments of Science and Technology issued their corresponding documents while the rest only forwarded the two official documents of MoST and MoE. Furthermore, these 16 new provincial documents do not reveal any alternatives to the SCI, and simply quote the statements made by MoST and MoE.

Indeed, Chinese scholars pointed out the impossibility of finding an alternative in a short term (L. Yu 2020), considering the SCI-based research evaluation system has deep roots in China. MoST and MoE emphasize that the future of research evaluation lies in peer review. However, peer review in China is also very controversial, given the strong influence of guanxi (personal relationships) (Shi and Rao 2010). Along those lines, given its time and resource consuming aspect, it is difficult to complete a large amount of research evaluations through peer review only (Bornmann 2011).
MoST is responsible for coordinating science and technology activities, whereas MoE administers universities, which are responsible for most research conducted in the country (83.5% of monographs and 75.5% of journal articles) (National Bureau of Statistics of China 2019). National research institutes and funding agencies are affiliated to MoST while MoE operates national research programs such as Project 211, Project 985, and Double First-Class, which provide substantial financial support to a small group of selected universities. Thus, in such dual administration, the policy reform needs to be coordinated by both MoST and MoE.

However, that does not seem to be the case. For instance, the MoE does not seem to push the policy as much as the MoST. On the contrary, MoE keeps promoting the Double First-Class program, which uses WoS/ESI indicators as a key criterion for admission (Chen and Qiu 2019; G. Zhao and Ma 2019). Recently, MoE issued two documents regarding research evaluation in social sciences and humanities (Ministry of Education of China 2020) and university tenure assessment (Ministry of Human Resources and Social Security and Ministry of Education of China 2021). Those did not contain anything new, and simply restated the measures announced in February 2020. Indeed, some universities have already figured out how to deal with the prohibition—they replaced direct cash-per-publication by a score assigned to each individual SCI paper… a score that could be converted into salary at the end of the year (Quan et al. 2017). Since the documents issued by MoST and MoE only prohibit direct cash awards for individual publications, universities or research institutes can use indirect monetary awards instead. Thus, we are far from a revolutionary change in the research evaluation practices of Chinese universities.

Global Leadership

In the 1990s, China launched an ambitious plan (Central Committee of the Communist Party of China and State Council of China 1995) for global leadership in science. One may consider the plan to be successful, as the country is now the largest contributor to research papers worldwide. China intends to expand its leadership to academic publishing. The purpose of the new China Science and Technology Journal Excellence Action Plan (CSTJEAP) is not only to encourage Chinese scientists to publish papers in national journals, but also to make their national journals more global.

CSTJEAP will not prevent Chinese researchers from publishing in top international journals. However, it aims to restrict publication in those with less impact, especially Gold and Hybrid OA journals with APCs. For example, we may no longer see many Chinese papers in the *Czech Journal of Genetics and Plant Breeding* (an OA journal indexed by WoS), in which more than half of papers published in 2018 came from Chinese authors. Indeed, those 89,165 China’s OA papers (either Gold or Hybrid OA) were published in 2,638 journals indexed by WoS in 2018; as Table 2 shows, only 335 and 913 journals were respectively included in Quartile 1 of Chinese Academy of Science Journal Partition (CASJP) and Journal Citation Report
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(JCR) that are used to define the high-quality journals in China. It means that the vast majority of OA papers (between 58,769 and 83,961) are ineligible to be high quality publications (HQPs) for the reimbursement of APCs under the new policy. This may also lead to a decrease of 14.1–20.3% in OA publications worldwide.

Uncertain Future

More than 30 years ago, China opened its doors to the West and embraced the international society; since then, China’s economy has experienced a tremendous growth and has become the fastest growing economy in the world. As a rising power, China created tensions challenging the existing international order (Kim and Gates 2015; Punnoose and Vinodan 2019), controlled and dominated by Western countries. Under the leadership of Chairman Xi, China has adopted an increasingly ambitious strategy pursuing global leadership not only in politics and economics but also in science, which will influence China’s science policies in the future.

In Chinese perspectives, although China is the largest contributor to global science, its power of discourse (Foucault 1971) in academia is still limited as the international scholarly communication system is controlled by Western countries in terms of academic journals, professional association, and academic norms (Zhang 2012; Liang 2014; Wang 2011). It is believed that the Western-centrism (Hobson 2012) exists in global science (especially in social sciences) as research topics, paradigms, methodologies, and evaluation are dominated by Western countries through their control over international scholarly communication venues as well as their peer-review process (Yu and Qiu 2021; Zhang 2016; Wang 2011). Some scholars even argue that Western countries use scholarly communication to disseminate Western culture, value and ideology for the purpose of politics (Jiang 2018; Xie 2014; Zhao 2020).

With the increase of the global share of scientific literature, Chinese scholars attempt to convert their roles in global science, from participants to leaders; sharing and gaining the power of academic discourse is considered as the prerequisite (Zhang 2016; Xu 2020; Zhang 2012; Shen 2016; Hu 2013). One example is that IEEE had to drop its ban on using Huawei scientists as reviewers under the pressure amid boycott from China’s academia (Mervis 2019; IEEE 2019). Indeed, Academic Discourse Power has become a popular research and news topic in China in the past decade (Figure 4). Some proposals suggest building a new global scholarly communication system including China-owned English journals, self-reliant citation index, and

### Table 2 The impact of policy reform on China’s OA publications

|                         | All  | CASJR Q1 | Ineligible for APCs (CASJP) | JCR Q1 | Ineligible for APCs (JCR) |
|-------------------------|------|----------|----------------------------|--------|----------------------------|
| Number of Journals      | 2,638| 335      | 2,303                      | 913    | 1,725                      |
| Number of Papers        | 89,165| 5,204    | 83,961                     | 30,396 | 58,769                     |
| % of OA papers worldwide| 21.5%| 1.3%     | 20.3%                      | 7.3%   | 14.1%                      |

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and a database indexing English abstracts of Chinese papers (Wu and Tong 2017; Zhou 2012; Zhang and Zhen 2017; Fang 2020; Lu 2018), which was adopted in the two official documents by MoST and MoE.

Recently, China released its 14th five-year social and economic development plan, which identifies scholarly communication as an approach disseminating China’s culture, beliefs and values, and emphasises more self-reliance rather than international collaboration in science and technology development (Government of People’s Republic of China 2021). The plan mentions the proposal building a national scholarly communication system in response to Chairman Xi’s call to “publish papers on homeland” (Xi 2016). Although these long term goals will not come into effect immediately, even be replaced by other strategies in the next five-year plan, they create uncertainty for the future of global science considering the possible conflict between the rising power and traditional powers in science.

China’s future involvement in international collaboration is another uncertain consequence to global science. In the past decades, China has been promoting international collaborations through various mobility funding initiatives (Quan et al. 2019). The China Scholarship Council, administrated by MoE, annually funds almost 20,000 Chinese scholars for a 6–12-month international stay as visiting scholars (Wu 2017), while National Natural Science Foundation of China (NSFC), administrated by MoST, offers funding for foreign researchers to encourage international collaboration (Yuan et al. 2018). As Figure 5 shows, the number of international collaboration papers (indexed by WoS) in China has been increasing in the past two decades; however, the ratio of international collaboration papers to all international papers decreased in 2019 and 2020. We are not sure whether the decrease is

![Figure 4 Number of Chinese Publications Regarding Academic Discourse Power from CNKI (2011–2020)](image-url)
attributed to the policy reform or due to the pandemic when international mobility was strictly limited (Lee and Haupt 2021).

**Conclusion**

Two years into the pandemic, the documents issued by MoST and MoE appear more like a communication exercise to appease public anger than the start of a strong policy reform. With the top-down administration model based on the centralized Chinese government, the SCI-based evaluation system was promoted from the top (e.g., MoST, MoE, etc.) and followed by the bottom (e.g., universities, research institutes, etc.). Thus, the MoST and MoE should not shirk their responsibilities and create ambiguous and non-transparent policies (Qi 2017; Shu et al. 2020b) when promoting the policy reform. For example, MoE should reconstruct the Double First Class program that is highly based on ESI indicators (Chen and Qiu 2019; Zhao and Ma 2019); MSFC, administrated by MoST, should give national publications the same weight as international publications when evaluating funding applications. Chinese universities and research institutes need to receive a clear and consistent signal that the policy reform is not only an armchair strategist.

Indeed, many negative effects don’t originate from the nature of the SCI-based indicators but come from the administrative purpose of research evaluation, which contributed many “beautiful” numbers in terms of the number of publications and rankings rather than real advancement of knowledge. China’s scientific administration should be aware that a successful research evaluation system should be completely merit-based; and the policy reform should start from the top.

In July 2021, the General Office of the State Council of China (2021) issued another new document providing the principles for designing a new research
evaluation system in science and technology, which duplicates most contents of previous documents. Unfortunately, a detailed proposal regarding the new research evaluation system is still missing.

**Funding**  Canada Research Chairs program

**Data availability**  Not applicable.

**Code availability**  Not applicable.

**Declarations**

**Conflict of interest**  The authors declare no conflict of interest.

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