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**Transnational academic mobility and  
capital accumulation:  
Focusing on Japanese-trained Chinese scientists**

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# Transnational academic mobility and capital accumulation: Focusing on Japanese-trained Chinese scientists

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### **Abstract**

The Chinese government has issued several preferential policies and programs to entice the foreign-trained top-quality scientists back to the homeland to reverse the trend of brain-drain. Despite the frequency of Chinese scientists' transnational mobility to Japan, academia has not paid enough attention to the impact of academic sojourns in Japan on Chinese scientists. Using Pierre Bourdieu's conceptual framework, this study attempts to explore how Chinese scientists benefit from their doctoral study in Japan. This working paper illustrates that returned Chinese scientists can accumulate cultural, social, and symbolic capital, and are able to convert cultural and social capital into economic capital. On the other hand, it also demonstrates the potential negative impact of mobility experience in Japan on scientists' cultural and social capital. This working paper points to the further analysis of relatively unsuccessful establishment of academic collaborative relationships between Japanese and Chinese scientists, and of the differences of the Japanese and Chinese academia in terms of rewards and evaluation systems.

*Keywords:* academic mobility; Bourdieu; capital; China; Japan

# Transnational academic mobility and capital accumulation: Focusing on Japanese-trained Chinese scientists

## 1 Introduction

The ten-year political chaos caused by the Cultural Revolution severely damaged the cultivation of scientific talents of China, and as the result, China fell behind other advanced countries in the world in terms of scientific research. In order to cultivate a new generation of outstanding scientists and strengthen the national science and technology capacity, with the initiation of the reform and opening-up in 1978, China commenced on sending high-quality personnel including students and scholars overseas for study and research. However, in 1990s, China realized that the return-rate of the overseas students and scholars was significantly lower than expected, which contributed to the problems of brain-drain (Cao 2008). To reverse the trend of losing high-quality science and technology talents, the Chinese government has initiated several preferential policies and programs, including the Hundred Talents Program, the National Science Fund for Distinguished Young Scholars, the Chunhui Program, the Chang Jiang Scholars Program, and the Thousand Talents Program, to entice those high-end personnel, especially the best and brightest scientists back to the homeland (Zweig & Wang 2013).

The efforts made by the government have endowed advantages to the returned scientists who have received education or training overseas, often called Haigui (in Chinese) or “sea turtles”, over local colleagues who have developed all the stages of academic career in Mainland China in academic

labor market. The Chinese higher education and research institutes have also attached importance to those returnees primarily out of the following reasons. Firstly, in response to the process of globalization, universities have implemented a variety of policies and programs to advance their level of internationalization (Altbach et al. 2009), and the number of affiliated foreign-trained scholars has become one of the important indicators to measure the degree of internationalization of the faculty. Secondly, it has been agreed that there is a gap between China’s PhD training quality and those of western developed countries (Shen et al. 2016), hence PhDs trained outside Mainland China are expected to perform better in academic profession and deserve more rewards from the academia. Thirdly, the selection bias implies the possibility that those who are able to study abroad are already more talented than those who choose to stay in China (Zweig 2006).

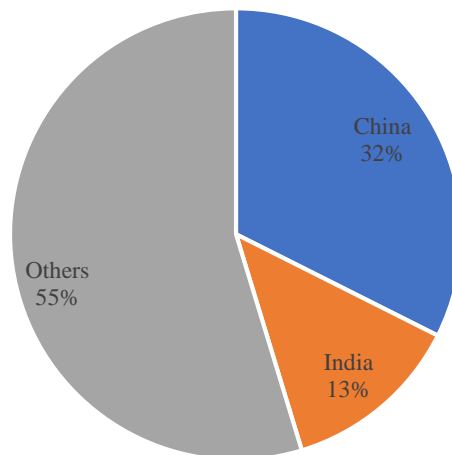
Quite a few studies have empirically explored the impact or the value of the experience of transnational academic mobility on the academic career development of Chinese scientists (Li et al. 2018; Wang et al. 2015; Liu et al. 2021; Li & Tang 2019; Leung 2013; Chen & Li 2013; Chen & Li 2019; Rosen & Zweig 2005; Jonkers & Tijssen 2008). However, the existing studies have generally limited their scope to Chinese scientists’ sojourns in Anglo-Saxon countries, while Japan as an important destination in Asia has not been fully discussed.

On the one hand, Japan has been the most

significant hubs in Asia for Chinese PhD students and scholars for study and research. From 2008 to 2014, the China Scholarship Council (CSC) funded in total 41,909 Chinese graduate students to either pursue PhD degrees abroad or a 1-2-year overseas experience, and Japan was the sixth popular destination country among all the countries and the most popular receiving country in Asia with receiving 2,374 students (Shen et al. 2017). Japan is also a popular destination for elite Chinese scientists during doctoral study, as it is the fourth popular destination country or region and the most favored country in Asia for the Thousand Talents recipients to acquire their PhD degrees (Zweig & Wang 2013).

On the other hand, China is the largest source of international scientists and scholars for Japan. According to the latest survey conducted in 2017, Chinese scholars accounted for the largest proportion (22.2%) of international faculty in the Japanese higher education system (Huang 2018). Besides, as shown in **Figure 1**, the latest data published by the Japan Society for the Promotion of Science (JSPS) shows that the number of Chinese scientists (31.7%) who received funding of the JSPS Postdoctoral Fellowships for Research in Japan (外国人特別研究員 in Japanese) in 2021 was also more than all the other countries.

**Figure 1** The home countries of the JSPS postdoctoral fellows in 2021



Source: <https://www.jsps.go.jp/j-fellow/saiyo/index.html>. (Accessed 1 December 2021)

Despite the non-negligible frequency of transnational mobility of Chinese scientists to Japan, there are only the limited number of studies that have evaluated the influences of such experience (Jonkers & Tijssen 2008; Li et al. 2018; Meng 2020). However,

few of them have explored the detailed process or mechanism how returned Chinese scientists benefit from their academic stays in Japan. Therefore, this study attempts to examine the impact of the experience of transnational mobility in Japan on

returned Chinese scientists. Adopting a qualitative approach of semi-structured interviews and Pierre Bourdieu's notions of capital, it analyzes whether academic mobility in Japan can be utilized to accumulate any form of capital for professional development and whether the accumulated capital can help the returnees advance their careers in Chinese academia.

## 2 Literature review

### 2.1 Transnational academic mobility as capital

Several studies have attempted to conceptualize the capital generated by individual scientists' transnational mobility. Rosen & Zweig (2004) defined the advantages of returned Chinese scientists over local colleagues as 'transnational capital' which is embodied in the formers' language proficiency, international publications, and international co-publications, while the utilization of such capital is closely related to returnees' specific institutional contexts (Chen & Li 2019). Li et al. (2018) also adopted the term of 'transnational capital' and reported that those elite Chinese returned scientists who have acquired the title of the Thousand Talents Scheme Scholars are able to accumulate such capital in forms of knowledge, skills, social networks, identity, and ambition.

Jonkers & Tijssen (2008) defined 'scientific social and human capital', which mainly refers to the concept of scientific and technical human capital (Bozeman et al. 2001), as a researcher's stock of professional ties, scientific and technological knowledge, and skills, and verified that international mobility can contribute to the accumulation of this set of capital. Kim (2010; 2017) coined the concept of

'transnational identity capital' which indicates the attributes associated with sets of personal psychosocial competencies in negotiating their ways in the transnational space, and for those transnationally mobile scientists who own such capital, the experience of displacement generated during their migration can be a vital catalyst to the production of new knowledge.

There are two studies (Leung 2013; Bauder & Hannan 2017) that have explored the impact of transnational academic mobility by adopting the notions of capital conceptualized by Bourdieu (1986), and they have provided this study with theoretical foundations. Leung (2013) proposed to extend the construct of Bourdieu's concepts of capital and geographical mobility should be regarded as an independent form of capital which can be converted into other forms of capital and valuable for individual scientists' development. Bauder & Hannan (2017) concluded that for early-career researchers, international mobility can be considered as symbolic capital that increases their competitiveness in academic labor market.

Based on the findings of the existing literature, this study attempts to explore the impact of academic mobility experience during doctoral study in Japan on Chinese scientists by identifying whether the experience can contribute to the accumulation of any form of capital defined by Bourdieu (1986). In the next section, Bourdieu's (1986) notions of capital will be reviewed in relation to the specific questions of this study.

### 2.2 Bourdieu's notions of capital

The concepts of capital explained in *the Forms of*

*Capital* (Bourdieu 1986) are used to explore what kinds of capital have the returned Chinese scientists have accumulated after their academic mobility to Japan. Capital forms the foundation of social life, and the acquisition of it determines one's social position in human society. Starting from economic capital, which refers to those materials assets that can be directly converted into money or institutionalized as property rights, Bourdieu (1986) expanded the notions of capital to include three other types of capital, including cultural capital which comprises the collections of cultural competence, social capital which denotes the accumulation of resources existing in durable social relations and networks, and symbolic capital which represents the way how other types of capital are perceived and recognized in a particular society. In addition to the categorization, Bourdieu (1986) also emphasized the inter-convertibility of different forms of capital. This study utilizes Bourdieu's (1986) notions of capital to interrogate whether Chinese scientists are able to accumulate any type of capital after their doctoral study in Japan and whether they can convert different types of capital into

each other.

### 3 Methodology

This study is based on the data of a qualitative study of interviews having been conducted since July 2021. It draws findings primarily from the data gathered through semi-structured interviews with 15 (so far) scientists who have been funded by the CSC to study as full-time or visiting doctoral student in Japan. **Table 1** shows the basic information of the interviewees. To further enhance the statistical representativeness of this study, the sample size still needs to be expanded with ensuring diversity in gender, discipline, the type of PhD, the year of graduation and academic title at the same time. This working paper reports the preliminary results based on the relatively limited sample. The interviews primarily covered the following information including (I) the interviewee's biography, especially the information directly relevant to their decision to study in Japan and (II) the impact of academic mobility experience in Japan on their academic careers and personal lives.

**Table 1** Basic information of the interviewees

No.	Gender	Discipline	Type of PhD	Year of Graduation	Academic title
A	Male	Education	Full-time	2018	Assistant Professor
B	Male	History	Full-time	2019	Assistant Professor
C	Female	History	Visiting	2016	Assistant Professor
D	Male	History	Full-time	2015	Associate Professor
E	Male	Engineering	Visiting	2012	Associate Professor
F	Male	Science	Full-time	2014	Assistant Professor
G	Male	Engineering	Full-time	2014	Associate Professor
H	Male	Science	Full-time	2015	Assistant Professor
I	Male	Science	Full-time	2013	Assistant Professor
J	Male	Science	Full-time	2017	Post-doc
K	Male	Engineering	Full-time	2015	Assistant Professor
L	Male	Engineering	Full-time	2013	Professor
M	Male	Engineering	Full-time	2012	Associate Professor
N	Female	Engineering	Full-time	2013	Assistant Professor
O	Male	Engineering	Full-time	2013	Associate Professor

#### 4 Analysis

In the following, the interviewees' perceptions and reflections of their mobility experience in Japan will be presented to demonstrate how transnational academic mobility has been utilized to accumulate capital. The interview materials will be analyzed in the following sequence: cultural capital, social capital, symbolic capital, and economic capital.

##### 4.1 Cultural capital

Bourdieu (1986) differentiated three types of cultural capital as (1) embodied cultural capital that refers to the long-lasting dispositions of the mind and body (e.g., knowledge, skills, tastes), (2) objectified cultural capital that refers to the consumption of cultural goods (e.g., books, paintings, antiques), and (3) institutionalized cultural capital that refers to the degrees, diplomas or certificates verifying one's embodied cultural capital. In this study, most of the interviewees emphasized the accumulation of embodied cultural capital as the results of their doctoral stays in Japan. One of the most important rewards of the doctoral study in Japan is the acquisition of academic competence which is beneficial to the academic careers of the interviewees. For example, a historian pondered on his experience and demonstrated how he has benefited from his stays in Japan as follows:

Internationalization is an advantage. Other Chinese scholars in my discipline, most of them only read studies in Chinese or English, but they do not pay attention to Japanese or Korean studies. ... Some of the studies written in Japanese have very efficiently organized research materials, and they are very helpful. Besides, the writing style of

Japanese scholars in Archeology is quite different from the Chinese style, so my article may look fresh and innovative to Chinese colleagues. ... (Interviewee B, history)

In addition to academic competence or skills, it is also worth noting that almost all the interviewees highly recognized Japanese scholars' ethics and patience towards academic research, and it seems that the Chinese scientists have tried to assimilate such personal quality as individual scientific researchers:

I think it (the experience in Japan) has affected my character. ... Since I spent several years in Japan, I have become more rigorous and established stronger sense of responsibility. (Interviewee E, engineering)

However, almost all of the interviewees revealed the negative side of experience in Japan in terms of cultural capital, which is the lack of training or habit of actively publishing in international journals. An engineering scientist mentioned that compared with those who studied in English-speaking countries, Japanese-trained PhDs seem to be at a more disadvantageous position in terms of publishing in SCI journals which have been the primary indicator to measure the academic performance of individual scientists in China:

At least in my discipline, we were only required to publish one article in a Japanese academic journal to meet the requirement for graduation. ... But if you want to find an academic post (in Chia), you are expected to have published in SCI journals. In this sense, having studied in Japan can be a loss. (Interviewee N, engineering)



#### 4.2 Social capital

The interviewees were asked to reflect whether they have maintained any kind of collaborative relationships with their supervisors or other Japanese scholars after they came back to China. Almost all the interviewees responded that they have only maintained personal but not academic relationships, if any, with their supervisors for doctoral study in Japan since they returned to China. There were only two interviewees in history and engineering mentioned they have established certain forms of collaborative relationships with their supervisors as follows:

I managed to apply for an academic translation project. ... It was funded by the National Social Science Fund of China, and it aimed at translating some Chinese academic works into Japanese. Several Japanese scholars were closely involved in this project, so I think it was a form of collaboration. ... I have translated a book of my Japanese supervisor into Chinese, and we often discuss some academic issues via email. (Interviewee D, history)

Yes, my Japanese supervisor and I have a good relationship. We just had an online meeting about a student's study 2 days ago. We also have a research project jointly funded by China and Japan. (Interviewee E, engineering)

However, several interviewees mentioned the worries relating to social capital, as having left the Chinese academia for Japan for several years may contribute to the loss of connections with researchers in China, especially with the senior and leading ones, and it can potentially lead to disadvantageous positions in the Chinese academia. An engineering scientist strongly emphasized this potential negative

impact as follows:

What are the characteristics of our (China's) society? Social connections. ... I will say that our academia abides by the principle of meritocracy, but social connections cannot be ignored. If you leave for Japan for years, you will lose your presence in China. ... When you apply for those top research funding, you'd better know some senior and leading researchers. (Interviewee O, engineering)

#### 4.3 Symbolic capital

It has been widely agreed that the academic labor market in China tends to provide advantageous positions for researchers with overseas experience, which demonstrates the symbolic value of doctoral study abroad. In this study, some of the interviewees recognized the symbolic capital generated by their experience in Japan especially at the initial stage of finding faculty posts back in China as fresh PhD graduates. However, as a historian mentioned as below, such symbolic value has decreased since she formally got employed by the university and the further allocation of rewards now all depend on her academic productivity:

There is an advantage when you apply for an academic post as a fresh graduate, while later on, your overall performance will be evaluated in terms of acquiring a higher academic title. So, it seems that the significance of the experience in Japan as a part of your educational background will decrease as time goes on. (Interviewee C, history)

#### 4.4 Economic capital

This study relates economic capital to economic

income and competitive research funding of the individual scientists. All the interviewees mentioned that the allocation of economic resources in the Chinese universities is primarily in accordance with the principle of meritocracy, which means the experience of doctoral study in Japan is not directly associated with the possibility of getting higher revenues from the universities or acquiring more research funding, but their academic performance and the quality of their application materials play decisive effects.

However, some of the interviewees pointed out the potential indirect influence of mobility experience on the accumulation of economic capital. There are two scientists respectively in the fields of history and engineering described how their doctoral study in Japan indirectly helped them acquired those top-level research funding in China:

I managed to obtain the funding for junior researchers provided by the National Social Science Fund of China. ... I composed the application documents based on my doctoral research conducted in Japan, which was quite different from other applicants, and I guess that is one of the reasons for the success. (Interviewee B, history)

I was hardworking then (in Japan). I read a lot of academic books and learnt a lot of academic methods. After I came back (to China), I 'grafted' them. Not entirely but partly I utilized their ways of thinking... and 'grafted' some of their methods and they quite worked. The application for the National Natural Science Fund of China has gone very smoothly. (Interviewee N, engineering)

Above are good examples how the interviewees

converted cultural capital accumulated through their study in Japan into economic capital, which echoes with the convertibility of different forms of capital (Bourdieu 1986). Besides, as quoted in the section of social capital, Interviewee O also stressed the importance of local social networks in China on the application for competitive research funding, which indicates the convertibility of social capital into economic capital.

## 5 Conclusions

This study has attempted to extend the understanding of the impact of transnational academic mobility by exploring the returned Chinese scientists' perceptions of their doctoral study in Japan. 15 scientists have been interviewed so far, and this study has presented how these individual scientists have associated their experience in Japan with their various forms of capital. It can be concluded that almost all the scientists have accumulated certain forms of capital upon their returns to China. The typical ways are to directly develop cultural and social capital, and effectively convert them into economic capital. The symbolic value of the experience is also emphasized at the initial stage of seeking for faculty post in China. However, it is also worth noting that the Chinese scientists have also been faced with issues generated by their overseas experience, including having acquired less or lost cultural or social capital in certain ways.

This working paper has only presented the preliminary findings, and obviously there is room for improvement regarding the sample size and a more detailed discussions about the phenomenon why the returned Chinese scientists seem to not have actively

maintained collaboration relationships in the form of co-publishing academic articles, which implies the separation between mobility and networks. Another point which is also worth noting is the precondition for sampling, which is the interviewees are all now affiliated with Chinese universities. Once taking the scientists who chose to stay in Japan after they received their PhD degrees into consideration, the results can be different, as certain capitals may be valued differently from how they have been evaluated in the Chinese academia. This echoes with Bourdieu's (1984) notions of fields, which emphasize every field is relatively autonomous and each field values certain capitals. By further adopting the concepts of fields, this study is expected to advance the understandings of the differences between the Japanese and Chinese academia, especially regarding the rewards and evaluation systems in the two countries.

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