

Where Did They Come From? On Global Mobility of Chinese Returnees

Yingzhen Peng

East China Normal University,
China
51204407381@stu.ecnu.edu.cn

Wen Lou

East China Normal University,
China
wlou@infor.ecnu.edu.cn

Jianguan He

University of Tennessee Knoxville,
USA
jjianguan@utk.edu

Vincent Larivière

University of Montreal, Canada
vincent.lariviere@umontreal.ca

ABSTRACT

This study investigates the scientific mobility of Chinese returnees. Based on an analysis of scientific affiliation data in the Web of Science between 2008 to 2019, the paper explores the distribution of Chinese returnees from temporal and regional perspectives. The results confirm that there is an increasing number of Chinese migrant researchers who return home, and that mainly come back from developed countries.

KEYWORDS

Scientific Mobility; Chinese Returnees; Scientific policy.

INTRODUCTION

As one of the largest exporters of global talent in the world, China have been greatly beneficial for international scientific research. However, in recent years, we are witnessing that an increasing number of emigrant Chinese researchers returning to China. The goal of this paper is to provide a better understanding of mobility patterns of Chinese researchers, with a focus on where they returned from. Exploring the global mobility of Chinese returnees has policy implications for China's funding and mobility programs and on the training of Chinese researchers.

DATA COLLECTION AND METHODS

We retrieved all the Web of Science papers (more than 17 million publications) of all the authors (more than 23 million disambiguated authors), and selected those who have ever published with a Chinese affiliation (N=7,738,758). Chinese returnee refers to the author whose original and latest publication country are China, but were affiliated to at least one other country during the period. A researcher's original country is not assumed to be the mother country of the researcher or nationality, but rather the country affiliation of their first publication. Following Robinson Garcia et al. (2019) we identified travelers and emigrants. Traveler refers to authors who keep a Chinese affiliation while adding other countries to their affiliation lists, while emigrants are researchers who, at some point lose their Chinese affiliations and are strictly affiliated with non-Chinese. Duration is defined as the time period between the year of affiliation to other countries and the year they returned to China.

RESULTS

A total of 7,738,758 Chinese researchers were identified, representing 33.45% of all researchers in the dataset. Table 1 summarizes the number of Chinese researchers by different mobility types. Most researchers (99.27%) show no evidence of international mobility. Only less than 60,000 Chinese researchers have had international research experience over the 2008-2019 period. Among these 0.73% of Chinese researchers, the most common type of mobile researchers are Chinese returnees (51.77%) followed by those travelers who keep the relationship between China and other countries (26.43%) and those immigrants who have not returned back to China yet (21.81%).

Mobility Type		Total	% of Total	% of Mobile
Non-mobile		7,682,267	99.27	/
Mobile	Total	56,491	0.73	100
	Returnee	29,243	0.38	51.77
	Traveler	14,929	0.19	26.43
	Emigrant	12,319	0.16	21.81

Table 1. Number of Chinese researchers by mobility status

Figure 1 (left) shows that the number of Chinese returnees has increased steadily since 2008. To take into account the fact that there is an increasing number of Chinese researchers in the dataset, we compiled this value as a percentage of all Chinese researchers. It shows that, even in relative terms, the percentage of Chinese researchers coming back home has been increasing steadily. The decrease in 2010 and 2011 is perhaps due to the rapidly growing number of Chinese researchers going abroad.

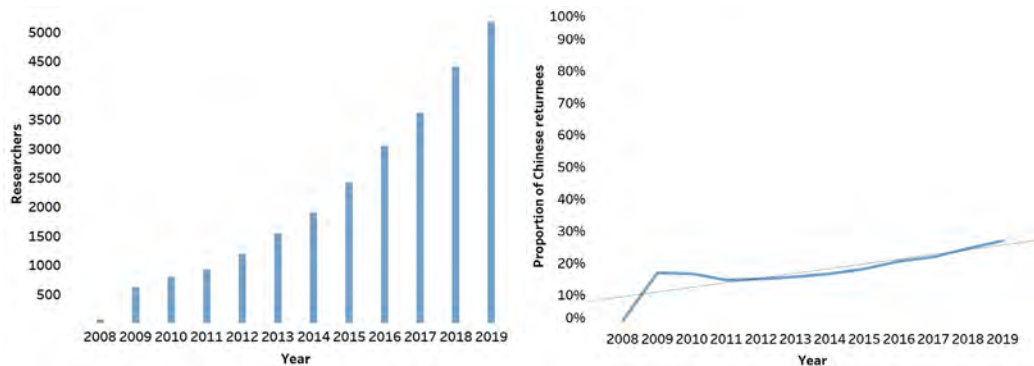
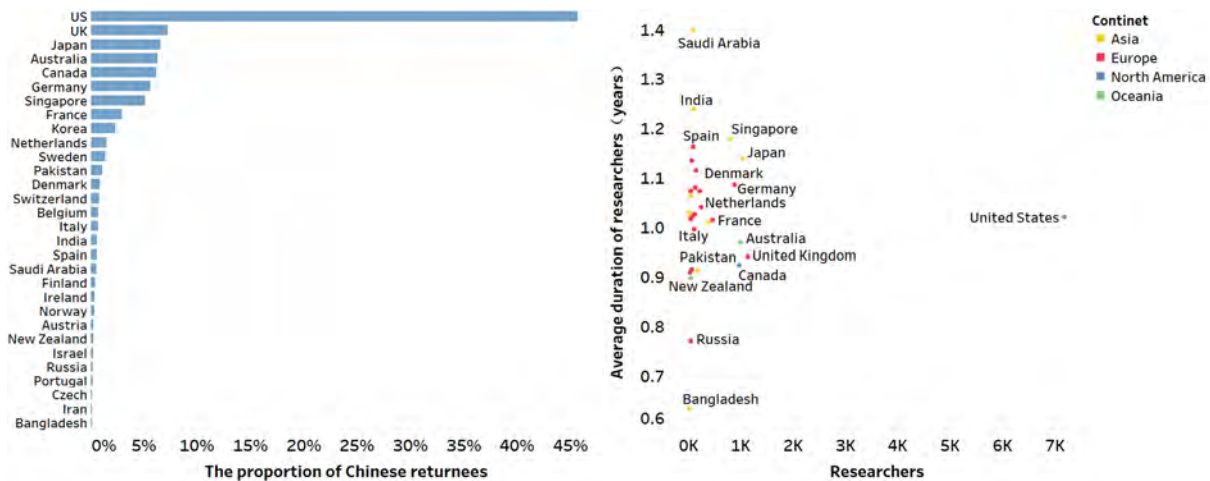


Figure 1. Number of Chinese returnee researchers by year (left) and the proportion of Chinese returnees to all Chinese researchers abroad by year (right)

Figure 2 (left) shows which countries have Chinese returnees come back from. United States is the country that attracted the highest number of Chinese researchers, representing almost half of researchers. Other six countries, United Kingdom, Japan, Australia, Canada, Germany, and Singapore, respectively account for 5%-8% of Chinese returnees. However, even though United States has attracted the biggest population of Chinese returnees, the average duration that they stayed in is relatively shorter than other countries such as Japan, Singapore, and Germany (Figure 2 right). Chinese returnees stay abroad less than two years on average, with longer duration in Asian and



Europe.

Figure 2. Proportion of Chinese returnees by country (left) and average duration per country and number of researchers (right)

CONCLUSION AND FUTURE WORK

The study provided empirical evidence of the extent to which emigrant Chinese researchers are returning to their country, of the time to return, and on main country of emigration. Our findings provide new insights for China that may be used in talents policy. This study explored scientific mobility only by bibliometric data, which may neglect Chinese researchers who published their first academic article in a foreign country, worked for several years there and then went back to China. Future research will focus on variations in mobility by discipline, on the relationship between mobility and scholarly impact, and on the qualitative assessment of the factors that affect mobility.

REFERENCE

Robinson-Garcia, N., Sugimoto, C. R., Murray, D., Yegros-Yegros, A., Larivière, V., & Costas, R. (2019). The many faces of mobility: Using bibliometric data to measure the movement of scientists. *Journal of Informetrics*, 13(1), 50-63.