

## Research Productivity of Chinese “Young Thousand Talents”

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Implementing talent recruitment programs has become a widely adopted strategy by numerous countries seeking to attract international researchers. Countries that fail to recruit international talent and/or retain domestic talent risk facing severe brain drain. Well-designed talent recruitment programs, offering exceptionally attractive working conditions and salary packages, help in turning brain drain into brain gain.

Until the turn of the millennium, China was a country challenged with brain drain. To deal with the problem, the Chinese government issued successive policies to attract overseas Chinese and foreign talent to China. The “Young Thousand Talents” program (Y1000T), established in 2011, is arguably the most influential of these programs, recruiting early- and middle-career researchers from overseas. The Y1000T program provides attractive terms of employment in an effort to recruit young talent (doctoral degree holders under the age of 40) from overseas who have the potential of becoming leading figures. From 2011 to 2018, around 4,000 researchers have been supported by Y1000T in China. The majority are Chinese returnees. It is commonly agreed that returning talent can effectively enhance the quality and competitiveness of Chinese higher education, yet the research performance of returnees has not been compared to that of Chinese scholars remaining in other research-intensive countries, especially the United States. It is interesting to verify if China really offers better research conditions compared to other countries.

We have compared Y1000Ts selected in the years 2011 and 2012 (the “treatment group”) and Chinese researchers working in American research-intensive universities (a control group whose data has been extracted manually from institutional websites for the sake of this study). The comparison attempts to show whether Y1000Ts are able to publish at a similar rate and with the same quality as their US-affiliated counterparts. The treatment group includes 183 individuals, while the control group includes 363 researchers. While Y1000Ts work either in Chinese universities or in research institutes, all researchers in the control group

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work in research-intensive universities. Both groups are homogenous in terms of age and discipline (life sciences, engineering and materials sciences, chemistry, mathematical and physical sciences, informational sciences, environmental and earth sciences, medicine, and public health and preventive medicine). The group of US-based Chinese researchers has been split into two cohorts in order to be compared with the Y1000T returnees.

### **SIMILAR PERFORMANCE IN TERMS OF RATE OF PUBLICATION**

All selected researchers received their doctoral degrees around 2006. In the next five years, both groups made considerable progress in terms of number of publications. In 2013, the average number of publications among Y1000Ts was 27.1, compared to 25.7 among the control group. After coming back to China, and until 2018, this number increased to 39.0 for Y1000T, while for researchers in the control group, it was 39.4. This is not a significant difference, although the increase in the number of publications by Y1000Ts is slightly slower than that of the control group.

With respect to types of publications, after recruitment, 84.8 percent of publications by Y1000Ts were journal articles (other outputs being proceedings, chapters, or others), while for their counterparts the percentage was 76.1. There is no clear preference for publishing in an open access mode by either group. Both groups’ rates of open access publishing increased over the time span in focus here, rep-

representing an increase of 3.7 percent to 6.9 percent among Y1000Ts, and 4.6 percent to 6.6 percent for researchers in the United States.

#### SLIGHTLY BEHIND IN THE QUALITY OF PUBLICATION

While performance is similar in terms of gross number of publications, Y1000Ts are at a slight disadvantage in terms of quality of publications (journal impact factor), although there is no significant difference between the two groups in the number of publications in first quartile journals. In terms of impact factor, Y1000Ts tend to publish in less prestigious journals. They are more successful in getting their publications cited, regardless of how many times. Specifically, Y1000Ts had 78.29 percent of their publications cited after moving back to China. In the same period, their counterparts had 73.8 percent of their outputs cited.

Descriptive statistics also illustrate that, after being recruited back to China, the average citation per Y1000T publication (12.225) is lower than that of the control group (15.931). With respect to publication recognition, measured by accumulative citations, Y1000Ts appear to lag behind their counterparts. In addition, although Y1000Ts are very focused on publishing with international partners, there is an evident decrease in international collaboration rate after their return to China. Before returning to China, 56 percent of publications by Y1000Ts involved international collaborations. This percentage dropped to 44.8 percent after their recruitment under the Y1000T program. Meanwhile, the control group managed to maintain a rather high level of international collaboration rate (66.2 percent before the control years 2011 and 2012; 65.6 percent afterwards).

#### CONCLUSION

In sum, the Y1000T program has been rather successful in terms of attracting some of the best overseas Chinese talent back to China, as demonstrated by the highly prestigious list of institutions from which they graduated with their PhD. After their return, the majority of Y1000Ts worked in elite Chinese universities or research institutes, with rather abundant research funding and privileged working conditions—in some cases, better than those of the control group in terms of financial and hardware support.

Nevertheless, conditions sets by Chinese institutions deserve further examination, particularly regarding the assessment devised for Y1000T recipients. According to the program, the primary task of Y1000Ts is to publish high-quality articles in prestigious international journals on an annual basis. While Y1000Ts have been successful in keeping a publication rate similar to the control group, the quality of their publications may have suffered due to the intense pressure to publish.

This sheds light on the overall assessment system of Chinese research performance. In China, the urge to catch up is pervasive and influences the country's national and institutional strategies of enhancing research capacity. Short-term returns, especially the number of research publications and targeting journals' impact factors, are stressed by both government and institutions. However, while much attention is paid to the number of publications and publishing in first quartile journals, the quality of each publication ends up being less of a concern. Although the concentration on short-term returns greatly contributes to the boost in research outputs, it may hinder the development of a more sustainable academic culture emphasizing quality. It may also hamper the development of academic fields where intensive publishing is less likely. Arguably, the next step for China is not to deal with financial or talent shortage, but to overcome its urge to catch up and to pursue short-term returns. ■

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