

The Situation Analysis and Comparison of Overseas Talents Returnees of Chang-Zhu-Tan National Independent Innovation Demonstration Zone

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Abstract—This paper analyzes the present situation of overseas talents returnees in Chang-Zhu-Tan National Independent Innovation Demonstration Zone. researchers compare the innovation resources and overseas returnees of China's seven National Independent Innovation Demonstration Zones and find the existing problems of overseas talents returnees in Chang-Zhu-Tan demonstration zone. The study show that there are some factors restricting the overseas talents returning in Chang-Zhu-Tan zone such as the overseas talent introduction dynamics, asymmetry market demand and talent information and insufficient participation degree of market and social forces etc.

Keywords—Overseas Talents; Teturnees; Chang-Zhu-Tan; Situation Analysis; Comparison

I. INTRODUCTION

With the acceleration of the process of economic globalization, the competition among the countries is growing and the high-quality talents have become the object of competing countries. The experience of developed countries shows that two-way flow of international intellectual capital can bring different effects on technological progress and economic growth of the talent inflow and outflow abroad. In recent years, with the dynamic development of the world economy, the flows of international intellectual capital have begun to show some forms such as outflow, returning, circulation and so on. At the same time, China's intellectual capital flows also show a new pattern of the coexistence of a variety of forms. China is increasingly from the "brain drain" gradually transformed to the main "intelligence return receiving country" in the world.

At present, China is implementing the strategies of innovation-driven development and strengthening the

nation on talent. The State Council has approved the construction of seven national innovation demonstration zones such as Beijing's Zhongguancun, Wuhan Donghu, Shanghai Zhangjiang, Shenzhen, Sunan, Tianjin and Chang-Zhu-Tan since 2009. These national innovation demonstration zones are not only the important carrier to the strategy of local innovation-driven development. However, the important base of attracting overseas high-quality talents. Therefore, this paper would take Chang-Zhu-Tan National Independent Innovation Demonstration Zone as an example (hereinafter referred to as Chang-Zhu-Tan demonstration zone) and research the situation and problems of the overseas talents returnees. The study has an important theoretical and practical significance to speed up the advantages formation of international competitive talent system, implement innovation-driven development strategy and build an innovation-oriented country.

II. LITERATURE REVIEW

More and more students traveled to foreign countries, especially developed countries, in order to seek high quality education resources since the second half of the 20th century. International talents flow is beginning to show some forms such as outflows, returning and circulation. The transnational flow of human capital of the special factor of production will not only affect industrialization and the development of information technology of host countries which the talent flows into, will also bring positive economic and social effects of mother countries in the long term (Beine et al., 2001, 2006; Kugler & Rapoport, 2004; Kuhn & Carol, 2006).

The research on the relationship between overseas talent returnees and technological progress mainly consists of the following sections. Firstly, some literatures theoretically discussed the mechanism of overseas talents

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returning to technological progress in the origin countries. The related theories of overseas talents returnees are mainly from the perspective of international population migration. The representative theories are the push and pull theory, structuralism theory, new classical economics migration theory, new migration economics theory, transnationalism theory, migration network theory and etc. On the basis of these theories, the scholars have found that: (1) Overseas talents returnees could help to improve the overall human capital level of the mother countries. McCormick & Wahba (2001), Kapur & Mchale (2005) and Mayr & peri (2008) found that returnees from developed countries would contribute to improve the stock of human capital of their mother countries because of their high level of human capital. (2) Overseas talents returnees would be beneficial for their sustainable exchange between the mother country and host country. As a bridge, overseas talents returnees would help to form the social and business networks based on affection and friendship between original and host countries (Kugler & Rapoport, 2006; docquier & Lodigiani, 2008; Zi Ping Gao, 2012). Although these talents have returned home, the network still exists in and will help to strengthen persistent technology exchange between the mother country and overseas (Rauch & Trindade, 2002; Gao, 2003).

Secondly, the technological progress effect of overseas talents returnees was empirically analyzed. Due to the availability of data, the empirical research on technological diffusion effect of overseas talents returnees was rarely. Park (2004) empirically explored the technological spillover effects of international student flows by using a data set of 21 OECD economics and Israel. Le (2010) empirically studied that students flow could act as a significant channel for R&D spillover from 16 developed countries to 76 developing countries. Li Ping & Xu Jiayun (2011), Xu Jiayun (2012) and Song Yantao (2012) studied the technological spillover effects of China's overseas talents returnees. Their studies showed that overseas talents returnees have become one of the most important channels for international technological diffusion. And overseas talents returnees are conducive to the technological progress and economic development of mother countries.

In recent years, China paid more and more attention to attract overseas talents returnees, domestic scholars began to focus on the related problems in this field. However, only few scholars have studied the technological diffusion effects of overseas students return such as Li Ping, Xu Jiayun and etc. These researches are still mainly focused on the motivation of overseas students returning. (1) Analyzing the effects of external factors such as potential in regional economy, science and technology, policy environment, humanistic education development (Zhang Zaisheng, 2003; Sun Jian, 2005; Shi Kai and Hu Wei, 2006; Sun Yu, 2007; Lin Lin, 2009, 2012; Yang Hai, 2010; Wang Huiyao, 2010; Xu Jiayun and Li Shuyun, 2012; Yang Heqing and Chen Yian, 2013; Qiu Yi and NEhui, 2014, 2015). (2) Studying the push power of the social and economic fluctuations in the host countries to overseas students returning, especially from the positive push (Saxenian, 2001, 2002) and passive push (Chen, 2006). (3) Unlike other countries, due to the inherent characteristics of Chinese culture, the patriotic complex and the

relationship with mother country are the key factors to promote overseas students returning (Gao Ziping, 2012; Wang Huiyao, 2012). Therefore, the literatures studied the effects of external and individual factors on overseas talents returning decision from a different point of view of qualitative and quantitative analysis. The overseas returnees are affected not only by the impact of personal characteristics and experiences. In fact, the push and pull powers generated by the macro economic situation and social and political environment abroad and at home also affect their returning decision-making of overseas talents.

III. THE SITUATION OF OVERSEAS TALENTS RETURNES IN CHANG-ZHU-TAN DEMONSTRATION ZONE

A. *the number of returned overseas entrepreneurs is small and uneven distribution*

In recent years, Changsha National High-Tech Industry Development Zone has fully relied on national "1000 people Plan", Hunan Province's "Hundred Talents Program" and Changsha's "313 Plan" and actively introduced overseas high-level talents. And it sets up the special fund of 500 million yuan for industrial development. It includes 50 million yuan of the venture investment guide fund, 50 million yuan of innovative special funds and one million yuan of start-up funds to support the leading entrepreneurial talents. This zone also put forward 33 reward and preferential policies to support innovative enterprises, platforms, talents and innovation achievements. At present, Changsha high-tech zone has nearly more than 70000 outstanding scientific and technological personnel, including more than 13000 senior professional and technical personnel. There are 6212 high-level talents with the graduate degree and above and nearly 1000 overseas talents returnees.

Zhuzhou National High-Tech Industry Development Zone has actively promoted the "5211 Talents Plan", it has more than 1279 talents with the graduate degree and above including 75 doctoral students and 35 senior professionals. The number of overseas talents returnees in this zone is small, and there are 36 people according the current statistics including 4 women and 32 men. Most of them own the degree of master or doctoral.

Xiangtan National High-Tech Industry Development Zone has similar circumstances with Zhuzhou zone. Few people returned from overseas and the returnees venture is still in its infancy. Now this zone has nearly 30 overseas talents returnees and they are distributed as follows: 1) some of the returnees are working for their family business; 2) other returnees are working for the potential business with good performance such as Tidfore Heavy Equipment Group which has 5 returnees. From the respective of start businesses, the returned entrepreneurs are mainly concentrated in the field of high-tech, new economy and knowledge service industry.

In summary, the scale pf overseas talents returnees in the three National High-Tech Industry Development Zone are not large. However, overseas returnees in Changsha zone are much higher than that of Zhuzhou and Xiangtan. It can be seen in Table 1 that overseas talents returnees might pay more attention to the location and economic advantages of their employment region.

TABLE I OVERSEAS TALENTS RETURNEES OF 3 ZONES IN 2014

High-Tech zone	overseas students	returnees	Doctoral and postdoctoral
Changsha	1000	200	148
Zhuzhou	36	23	10
Xiangtan	30	21	20

Source: Changsha, Zhuzhou, Xiangtan High-tech Zone portal.

B. the similarity of study abroad and venture background is large

The overseas talents returnees in the three high-tech zones were born in 1950s-1980s and mainly in the 1970s and 1980s. Their main native places are Hunan province and there are 13 countries where the returnees studied, mainly concentrated in Japan, the United States, Britain, Singapore and other countries. The United States, Britain and other mainstream English countries accounted for the vast majority of the study abroad countries. Their professional distribution is relatively wide and computer, machinery manufacturing, business management are the popular ones. Overseas returnees are mainly self-employed and generally acted as senior management or technical personnel of the company. Their established businesses are mainly small and medium enterprises and belong to the growth type enterprise. The types of these enterprises are smart technology, electronic information and new materials. They need to give the support of fund, policy, market and etc.

IV. THE COMPARISON OF OVERSEAS TALENTS RETURNEES IN SEVEN DEMONSTRATION ZONES

A. Number of Colleges, Universities and Entrepreneurs

At present, China's seven National Independent Innovation Demonstration Zones have gathered more and more overseas talents, especially the returned overseas students. With the deepening of the reform of China's higher education, the introduction of overseas talents especially the high-end professional returnees has become the focus of the work of colleges and universities. They have developed various preferential policies to attract talent to join.

From the data of Fig. 1 and Fig. 2, researchers can find that the number of colleges and universities of national innovation demonstration zones with the basis of urban agglomeration is ahead. For instance, Sunan and Chang-Zhu-Tan belong to the type. Besides, the number of colleges and universities of four zones such as Beijing, Shanghai, Wuhan and Shenzhen is similar. However, Tianjin ranked last. However, the number of colleges and universities and overseas talents returnees is not proportional. As the demonstration zone of China's political and economic capital, Zhongguancun and Zhangjiang have attracted nearly 70% of the overseas returned entrepreneurs. However, there are very few returned entrepreneurs in Donghu and Chang-Zhu-Tan zones. The current situation reflects that it is not easy to attract overseas talents returnees for the central colleges and universities.

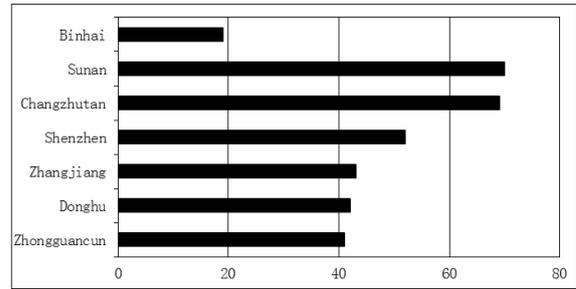


Figure 1. Number of colleges and universities in 7 high-tech zones in 2014.

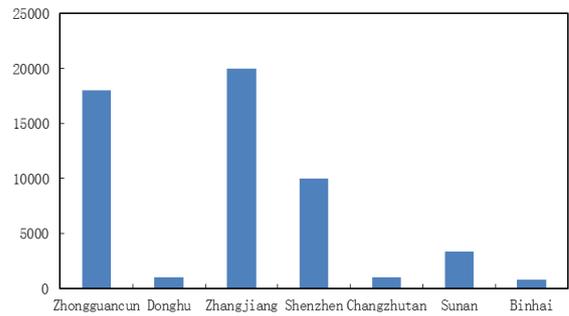


Figure 2. Number of overseas returned entrepreneurs in 7 high-tech zones in 2014.

The reason for the regional differences might be the low level of economic development, poor regional environment, and shortage of funds, hard school conditions and low wages in the central area. In addition, the central has less introducing channels of overseas talent and the domestic site or online recruitment is the main form. This passive approach often leads to poor and asymmetry information of overseas talents returnees.

B. Number of business of high-tech industry

In order to construct the innovative science and technology zone and attract international and domestic talents, researchers usually rely on the platform of high-tech enterprises to start the implementation of attracting talents. The business of high-tech industry also has a strong desire for overseas high quality talents, and their own attraction to overseas talents is also very considerable.

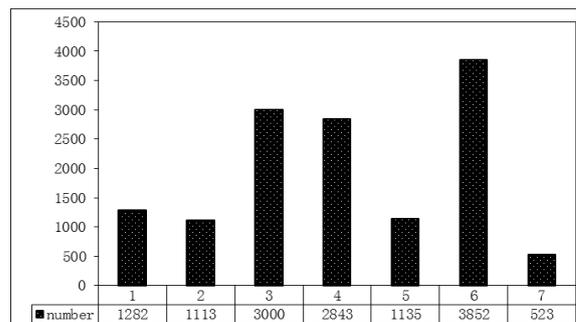


Figure 3. Number of business of high-tech industry in 7 high-tech zones in 2014.

Fig. 3 shows that high-tech enterprises are more inclined to settle in the southeast coast such as Shanghai, Shenzhen and Sunan demonstration zones. Although Binhai is coastal zone, the number of high-tech enterprises and colleges and universities list in the bottom of the seven

zones. This shows that it is very important to attract business of high-tech industry and overseas talents with high quality of local economic development level, talent development environment and etc.

C. Number of overseas talents returnees overseas students pioneer park

In order to attract more highly educated talents to return to innovation and entrepreneurship, China has implemented the “1000 People Plan” project since the end of 2008. This plan is the introduction strategic plan of overseas high-level talents. With the aim of the national development, a large number of overseas talents would be attracted to innovation and entrepreneurship in the parks with national key innovative projects, disciplines and laboratories, companies and financial institutions within 5-10 years in China. The total number of overseas talents returnees attracted by “1000 People Plan” project has reached 4180 people until 2014. The implementation of the “1000 People Plan” has achieved positive results that it got a number of landmarks of original innovation and key technologies, promoted lots of high-tech enterprises to grow, built many world-class innovative teams, and speeded up the reform and innovation of scientific research, education and talent work mechanism.

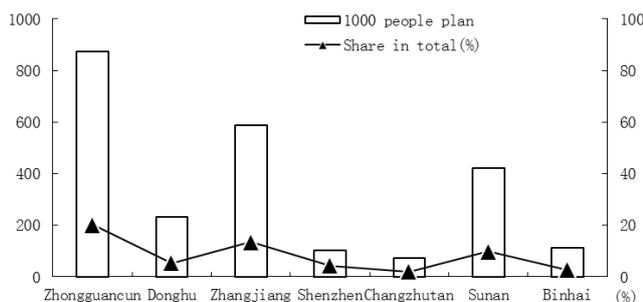


Figure 4. Number and its share in total of “1000 people Plan” in 7 high-tech zones in 2014.

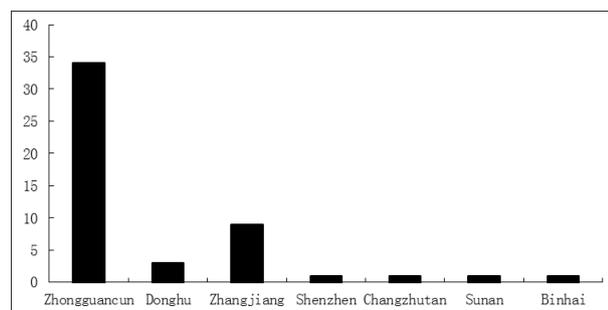


Figure 5. Number of overseas student pioneer park in 7 high-tech zones in 2014.

Combined with the information of Fig. 4 and Fig. 5, researchers can find that there is still a big gap of the introduction of overseas talents returnees in Chang-Zhu-Tan demonstration zone that compared with other zones such as Zhongguancun, Donghu and Zhangjiang. The introduction of overseas high-level talents of Chang-Zhu-Tan demonstration zone is faced with the serious problem. Its number of people in “1000 People Plan” listed the last of the seven demonstration zones and was far below Zhongguancun and Zhangjiang. At the same time, the figures show that the more overseas students pioneer parks

does not mean more overseas returned entrepreneurs. For example, the number of overseas student pioneer parks in Zhongguancun demonstration zone is more than that of Zhangjiang. However, the number of overseas returned entrepreneurs in Zhangjiang is higher than that of Zhongguancun. The results indicate that the construction of the demonstration zone needs the combination of both quality and quantity. Chang-Zhu-Tan demonstration zone has only an overseas student pioneer park in Changsha National High-Tech Industry Development Zone and its attraction for overseas returned entrepreneurs is limited.

V. CONCLUSIONS

It is very important strategic significance for any country in the era of globalization of attracting overseas talents returnees. In 21 century, with the globalization of economy and the process of the integration of science and technology, the number of overseas students has increased greatly and the number of overseas returnees has also been greatly raised in China. Firstly, on the basis of statistics of seven demonstration zones, this paper analyzed the current of overseas talents returnees of Chang-Zhu-Tan zone. Secondly, researchers compared the innovation resources and overseas returnees of the seven zones by using the tables and figures. The results show that there is still a larger development space of overseas talents returnees in Chang-Zhu-Tan demonstration zone. Especially, those talents in foreign high-tech sector engaged in scientific research personnel are human capital needed of the construction of national innovation demonstration zone. Therefore, Chang-Zhu-Tan zone should take more effective measures to attract overseas talents to return home and provide the intellectual support in the future.

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