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Brain drain reversal and return subsidy

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ABSTRACT

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This paper explores how return subsidies affect an individual's education, migration and return decisions within an asymmetric information framework. To achieve this, we develop a theoretical model in which agents are heterogeneous in their initial stocks of human capital. Our model can generate three types of migration at the same time: permanent migration, immediate return migration, and return migration with international work experience. We then examine the effects of differential return subsidies in different contexts and find that in the presence of asymmetric information, it is possible for return subsidies to play a negative role in determining a developing country's aggregate and average human capital stock, and thus its economic growth. *Journal of Comparative Economics* xxx (xx) (2014) xxx–xxx. Renmin University of China, 59 Zhongguancun Street, Beijing 100872, China.

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1. Introduction

“Brain drain reversal” refers to the phenomenon in which highly educated individuals return to their home developing countries from foreign developed countries. Thus, developing countries successfully reverse the brain drain and get back some of their “best and brightest”. A major case of brain drain reversal is the return home of students from developing countries who have been studying in developed countries.

Over the last century, brain drain has worried many developing countries. Governments have complained about the emigration of their nations' most highly skilled individuals. In recent years, due to rapid economic development, some developing economies have attracted talented individuals back to their home countries to access opportunities. Take China as an example. Fig. 1 describes the evolution of China's brain drain and reverse brain drain patterns between 1978 and 2012.¹ Since 1985, the Chinese government has gradually relaxed restrictions on Chinese citizens' study abroad. In 1993, the government adopted a series of policies to encourage self-financed students to go abroad. Since then, the number of Chinese students studying abroad has increased every year. Especially since its entrance into the World Trade Organization (WTO) in 2001, China has experienced a rapid increase in its top students leaving the country for higher education in developed nations.

It is evident that China suffered extensively from the brain drain problem in the past several decades, with few students choosing to return to China. However, this pattern started to change after the Chinese government's recent implementation

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¹ Source: China Ministry of Education.

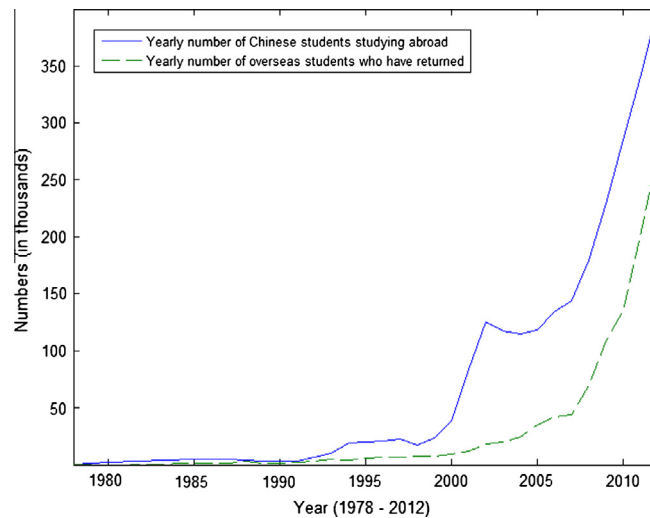


Fig. 1. The evolution of China's brain drain and reverse brain drain patterns.

of a series of subsidy policies to lure their overseas talent home.² According to China's National Bureau of Statistics, since 1978, more than two million Chinese citizens have gone abroad for their higher education. On average, 37 percent of them have chosen to return.³ Moreover, to attract the most talented, in 2008, the Chinese government announced a Recruitment Program of Global Experts (called the "1000 Talents Program"). However, the return ratio for these talents is small.

With the rise in return migration, returning students are starting to find it difficult to land a well-paid job. The firms in China are also becoming pickier about whom to hire and have reduced the salary premium offered to returnees. One widely adopted explanation for this is that these return migrants are of low quality. In the past, only the very best students studied abroad, and when they returned, firms believed that they were hiring the best and brightest. However, with China's fast development, a considerable number of families now send their children—many of whom are not high-quality students—to foreign universities. In fact, some of these students choose to study abroad because they could not pass the national entrance exam for university admission in China. In addition, most of these students, when they do return, have no work experience. Employers now face a tough situation because it becomes difficult for them to truly evaluate returnees' quality due to information asymmetry. Because they are uncertain of the returnees' qualifications, they hesitate to initially offer a high salary premium. As a result, the low salaries offered can lead the well-qualified migrants not to return.

Under these circumstances, how do government-provided subsidy programs affect migration patterns? Do the programs attract more returnees? Do the programs encourage high-quality individuals to return? These are important questions, as human capital flight has important implications for a country's economic growth, as well as for its global competitiveness. Surprisingly, the theoretical literature on return migration has just started growing, and little economic research has been conducted to examine these issues.

The main objective of this study is to answer the important above-mentioned questions. To achieve this, in the model economy, we allow heterogeneous individuals who differ in their initial stocks of human capital to decide where to accumulate their human capital, as well as where to work after their studies. Individuals also have the option to choose whether to gain international work experience or to return immediately after their studies. This assumption, in turn, can lead to three types of migration at the same time: permanent migration, immediate return migration, and return migration with international work experience. Moreover, to capture the fact that employers often find it difficult to observe college graduates' true human capital, we incorporate asymmetric information into wage determination. Specifically, for those who have just finished their studies, and hence have no work experience, no matter where they work, they are paid based on a weighted average of their true human capital and the group average of human capital of their type, whereas those with international work experience face less information asymmetry because employers in their home country value their work experience abroad.⁴

² The existing programs include, for instance, tax exemptions on imported cars, subsidies for buying a home, schooling for the returnee's children, and so on.

³ Dustmann and Weiss (2007) document evidence that migration decisions are reversible. They estimate that more than 50 percent of immigrants to the UK between 1992 and 2002 left within ten years of their arrival. LaLonde and Topel (1993) also find that one third of immigrants to the US between 1890 and 1957 chose to return to their home countries.

⁴ The setup of our model allows us to make a distinction between the two different types of return migrants. This is important because these two types of migrants are, indeed, different. Return migrants with work experience can have a greater effect on their home country's quality of human capital by bringing back advanced technology from abroad, facilitating innovation, and thus improving the home country's global competitiveness. Hence, they should be the target of immigrant-sending countries. However, China's experience has been that it is difficult to attract these top talents to return. Making this distinction enables us to develop a more realistic model. Given the fact that return migrants with work experience have more favorable advantages, it is reasonable to assume that employers in the home country would value their overseas work experience, and thus these return migrants would face less information asymmetry.

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