

Political and economic impacts on Chinese students' return

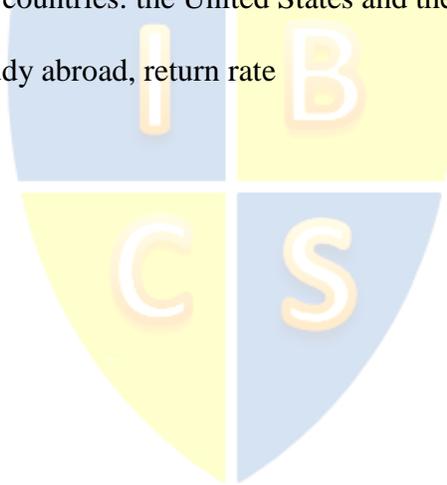
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ABSTRACT

The issue that students studying abroad remain in the hosting country instead of returning home consists of a part of the “brain drain” problem. Hence, it is important to investigate what factors and to what extent they affect students’ decisions on whether to stay in the hosting countries after they finish their degrees. In this paper, statistical analysis is applied to study the factors affecting Chinese students’ decisions on staying in the hosting countries or return China. Interestingly, although the hosting countries are scattered around the world, there are only four decisive factors; namely, the political changes and economic growth of China, and the economic growth of the top two hosting countries: the United States and the United Kingdom.

Keywords: China, student, study abroad, return rate



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INTRODUCTION

Ever since the economic reforms in 1970s, there has been significant migration flows from China. In 1985, studying abroad on one's own expense becomes unrestricted in China, which signifies the beginning of prevailing trend to study abroad for Chinese students. China is the largest source country of overseas students in the world now. Nonetheless, Chinese students play an important role in many countries' education catalogs. Among those countries, USA, UK, Australia, Canada, Hong Kong, Japan, France, Germany, Netherland, Singapore, and Korea constitute the "big eleven" targeting countries; altogether they consist of over 95% of all targeting countries for all Chinese students who study abroad.

In this paper, it is investigated that how some economic and political factors impact on students' decision on whether to stay abroad or go back to China. Generally speaking, the Chinese students who choose to stay in the host country where they complete their higher education constitute the major part of the "brain drain" problem; hence it is a crucial issue for both China and the host countries.

Each year, there are nearly 750,000 Chinese students applying for studying abroad, and over 80% of the Chinese millionaires consider sending their children to study abroad. After their graduations, their decisions on staying in the hosting country or returning China have enormous impact on the economies of both parties. For example, although there are no solid estimates, it is believed that at least 5% of the scientists and engineers working in U.S. are born in China; most of them are products of U.S. graduate programs. Silicon Valley, as the old joke goes, was built on ICs—Indians and Chinese; that is, not integrated circuits. As of the 2000 census, more than a quarter of all the engineers in the valley were either Indian or Chinese.

Nonetheless, the percentages mentioned above are even higher if the fact that many citizens are actually second-generation Chinese children is taken into account; that is to say, their parents used to be Chinese students. However, such a racial factor will not be considered in this paper. Another characteristic of the paper is that only Chinese students pursuing higher education are considered; that is to say, those who study at college-level or higher. Those who study abroad for elementary through high school are not included in the research.

There is a fact that should be clarified; namely, the distinction between individual behavior and group studies. Although all the students studying abroad should be studied as a whole, it is an individual decision whether to stay or return home for every student. As a consequence, many behaviors observed in this paper are not perfectly consistent with the optimal solutions forecasted from the statistical models. For example, the student returning-home rate is increasing rapidly since 2008, but there are not so many optimistic news that year. Interestingly, there is some such news in the previous year, 2007. This delay is understood as a psychological behavior, as individual decisions will be later than sociological factors even if the latter is decisive. Another noticeable phenomenon is that the delay between individual decisions and social environment changes is neither too short nor too long. It is usually around the one-year mark.

In this paper, the number of returning students is not studied directly, since the number of students going abroad is also increasing annually. However, the results are obtained based on the returning rate, which is defined to be the number of returning students annually over the total number of students going abroad annually. The returning rate is strictly increasing after 2001, which is consistent with the observations.

LITERATURE REVIEW

It should be emphasized that the objective of this article is to investigate the factors affecting student flow rate, not to judge whether the student migration is financially or socially good. Student migration could also be beneficial for the sending countries, in terms of enhanced cooperation for sending and host countries on information sharing, data exchange, and orderly management of return migrants (Shen 2005). In particular, the sending countries could gain via international collaboration and scientific linkage (Jonkers and Tijssen 2008). In a long run, it could boost the potential benefits for both parties.

Although some favorable factors exist to attract overseas Chinese students to return China, there are still uncertainties. Alberts and Hazen (Alberts and Hazen 2005, 2006) studied the case of international students in the U.S. They classify the motivating factors to help students decide to stay or leave into three categories: professional, societal, and personal. The same classification is adopted in this paper; however, unlike their studies, none of the three kinds of factors is necessarily encouraging students to stay or return in the case of Chinese students. For example, reverse culture shock does exist (Eberhard 1970; Gaw 2000), even if they leave only for a few years. On one hand, they feel like sojourners overseas and become home-sick, which is a strong drive to push them home. On the other hand, China is developing so fast that being away for a few years will make the sojourners feel like strangers in terms of rapid geological and cultural changes. As a result, cultural factors are not necessarily motivating them to return.

Other than the three kinds of factors, there are more key variables to consider: age, sex, and social background (Zweig 1997). But economic factors as well as professional concerns are more important. The elite emigration in China is due to a host of complex economic, social, and personal factors. For example, the presence of family or friends studying in a foreign country is important (Mazzarol and Soutar 2002).

Reentry into the home country following an extended stay in another culture is generally assumed to be both painful and problematic. The case on Chinese students is particularly severe, since China is changing so fast that many uncertain factors remain doubtful. For example, sometimes political incidents can play an important role. More students found it difficult to adjust to the home environment after the Tiananmen incident of June 1989 (Chang and Deng 1992). The situation is not much better with accompanying parent(s), which is similar to the case study in (Nukaga 2013).

The students who choose to stay in the host country where they finish their higher education instead of returning to their home countries constitute a part of the “brain drain” problem. China is facing such a serious challenge, as well as many other countries and districts (Chang 1992, Agrawal et al 2011).

Chinese students continue to choose staying after completing their degrees, drawn by what is seen as world-class research facilities, combined with opportunities to work alongside leading researchers with access to significant research grants. But the booming economy of China greatly mitigates the intension. Together with many stimulating policies, the economic factors start to become favorable for students to return (Biao 2003, Zweig et al 2004). These efforts are especially effective on recruiting scientific scholars overseas to return (Zweig 2006).

MODEL AND RESULTS

In 1992, Chairman Xiaoping Deng had a public speech in which he explicitly encouraged students to study abroad and then bring advanced knowledge and technology back to China. Ever since then, the amount of students studying abroad on their own costs became sizable. Considering the lagged effect of this policy, the data starting from 1993 is collected. The data on students studying abroad, returning, and return rate are collected from National Bureau of Statistics of China. Economy will influence job markets; in particular, better economy often implies more and better job opportunities so it will attract more students to return. According to The Annual Report of Study Abroad Trends published by China Education Online, the number of students who went to The United States of America (USA), The United Kingdom (UK), Australia (AUS), Canada (CAN), Hong Kong (HKG), Japan (JPN), France (FRA), Germany (DEU), Netherland (NLD), Singapore (SGP), and Korea (KOR) always consist of over 95% of total study abroad students. For example, in 2013, the percentages of students studying abroad in USA, UK, AUS, CAN, HKG, JPN, FRA, DEU, NLD, SGP, and KOR are 30%, 21%, 13%, 10%, 7%, 5%, 4%, 2%, 2%, 2%, 1% respectively, a total of 97%. So the economy data of these countries together with those of China (CHN) will be collected to see whether they have any influence on students' return rate.

Next, the model will be explained. Economic growth is the increase in the market value of the goods and services produced by an economy over time. It is conventionally measured as the percent rate of increase in GDP. Economic growth shows how countries can advance their economies. The economic growth data of the above 12 countries are collected from the World Bank. In addition to these factors, China government started some special policies in 2007 to encourage people to come back from overseas. Hence, an initial model starts as follows:

$$\text{Return rate} = B_0 + B_1 * \text{CHN} + B_2 * \text{USA} + B_3 * \text{UK} + B_4 * \text{AUS} + B_5 * \text{CAN} + B_6 * \text{HKG} + B_7 * \text{JPN} + B_8 * \text{FRA} + B_9 * \text{DEU} + B_{10} * \text{NLD} + B_{11} * \text{SGP} + B_{12} * \text{KOR} + B_{13} * \text{Policy},$$

in which Policy is an indicator variable, 0 for no policy and 1 for yes policy. Also considering the lagging effect, Policy = 1 starting from 2008.

After performing backward elimination process, the final model is

$$\text{Return rate} = B_0 + B_1 * \text{CHN} + B_2 * \text{USA} + B_3 * \text{UK} + B_{13} * \text{Policy}$$

The p value of overall F test as indicated in table 1 suggests that the model is useful to estimate the return rate given other factors. R^2 and adjusted R^2 as indicated in table 2 imply the data variation is explained well and the model has a good fit.

Finally, it is explained how the initial model is simplified to the final model. The p-values of certain data are significantly large after the statistical analysis is applied on the initial model. Hence they are eliminated one by one until the four surviving variables in the final model, where the p values of all variables as indicated in table 3 are all less than 0.05, which indicate they are statistically important explanatory factors. So the attracting policy does influence return rate, so do the economies of China, United States and United Kingdom. It is reasonable to believe the impacts brought by the political changes and Chinese economy. United States and United Kingdom are always the top two countries that most students study abroad. For example, in 2012, 30% and 21% of study abroad students went to United States and United Kingdom respectively, which constitutes more than half of the total student body.

CONCLUSION

In this paper, it is investigated how the economic and political factors play important roles on Chinese students' return rate. Based on the results, the students' return rates are indeed influenced by many economic and political factors. However, those factors have different weights on their impacts. Among all 11 targeting countries for Chinese students and China, it turns out that only the economies of the top two targeting countries are crucial, as well as the economic and political changes of China. All the data have their p-values significantly small, which indicates strong correlation with the students' return rate.

Among the most important four data, the impact of the economy of the United States is the largest one in terms of the p-values of them. The encouraging policy of Chinese government is slightly behind. The other two factors, the economic data of the United Kingdom and China, are not so obvious, though they are much more important than those data of the remaining targeting countries for Chinese students.

Another interesting observation towards the four data is that the stimulating policy of Chinese government is much more important than the economic growth rate of China, when they are to evaluate the impacts on students' return rate. This is because of the difference between mass effect and individual decision. The economic growth of China is a mass effect. Although it is important and impressive for its own sake, it does not affect directly onto individual decisions as whether they want to stay overseas or return. After all, everyone can enjoy the benefits of the policies immediately, but the economic growth is more or less just a number for them.

Cultural factors should also be checked if suitable metrics can be identified. It will be a future research topic.

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APPENDIX

Table 1

	<i>F</i>	<i>Significance F</i>
Regression	11.61484	0.000169969

Table 2

<i>Regression Statistics</i>	
Multiple R	0.869446
R Square	0.755936
Adjusted R Square	0.690853

Table 3

	<i>t Stat</i>	<i>p-value</i>
Intercept	-0.42774	0.674921
CHN	2.33269	0.034002
USA	3.420949	0.003791
GBR	-2.41237	0.029112
Policy	3.304136	0.004818