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Master's Thesis

Reverse Brain Drain in China:

A Qualitative Policy Analysis

중국의 두뇌 유출: 정부의 정책 관련 정성분석

February 2019

Graduate School of International Studies

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Reverse Brain Drain in China: a Qualitative Policy Analysis

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Abstract

The thesis aims to research the effectiveness of government policies in regards to encouraging return migration. The importance of migration from China as well as the causes and effects are explored. The theories behind return migration and the motivational factors are explained and analyzed in the context of China. The literature review covers the critical perspectives regarding return migration and the current research in the field. By utilizing two different frameworks, the thesis is an attempt to answer questions regarding effectiveness of China's central government policies. The policies have been categorized into two groups: the policy-oriented approach and the project-oriented approach. The policy-oriented approach refers to widespread goals or attempts to increase the rate of returning migrants. The project-oriented approach is more specific in regards to who the program hopes to reach, and what the specific end goal is. Gornitza's framework is used to test the effectiveness of national government policies while Weiss's framework is used to test effectiveness of more specific schemes such as the Thousand Talents Policy and Cheung Kong Scholar Program. To rate the effectiveness, the numbers of returning migrants in recent years as well as aspects of programs such as requirements and incentives were analyzed. The major finding was that the national policies had limited effectiveness on

long-term return migration due to vagueness of goals and lack of comprehensive incentives for various positions. The short length of programs may also contribute to their limited effects. The government support for the development of the high-tech city, Zhongguancun was analyzed to be the most effective comprehensive form of state effort towards attracting talented migrants back to mainland China.

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1. Introduction

With millions of immigrants leaving their home countries and setting off to start new lives in foreign countries, various social and economic effects have surfaced. Many immigrants, though not all, leave a country of lower economic level and living standard to one of more economic opportunities and higher income. This has left home countries with a phenomenon widely known as the Brain Drain. The Brain Drain describes the outflow of educated, skilled migrants from developing to developed countries. Loss of human capital via the Brain Drain has affected many developing countries. The related causes and effects are multifaceted and complex, combining not only economic but social, political, and cultural factors. The implication of the Brain Drain and the reason that it has come to the forefront of issues dealt with by developing countries' leaders is that it essentially perpetuates the cycle of a low standard of living in the home country, while the educated and skilled are leaving for developed countries that offer higher salary and living standards, most notably countries in the West including the United States, Canada, the United Kingdom, and some regions of Europe. Due to the economic effects and loss of human capital it incurs, the Brain Drain has since then become a popular subject of research regarding the migration pattern of people around the world. For the

governments involved, the strategies and policies have been geared towards inducing these skilled and educated emigrants to return to their home country.

After decades with the Brain Drain remaining as a prevalent area of study within migration, a new phenomenon began to emerge. Some of the home countries that initially could not offer a high standard of living, began to experience economic growth and technological development. Immigrants who had initially left their home countries to pursue a high level of education, or a higher standard of living- known as “push factors,” began to return to their countries of origin. Many “pull factors” contributed to this phenomenon including the increase of job opportunities in the home countries, family ties, cultural identification and rise in living standards (Lee, 1966). The returning migrants created an atmosphere full of new development and growth in their home countries. Bringing with them experience and knowledge from the developed world, these returning immigrants would pave the way for new jobs and opportunities in their sending countries. While in the past, large waves of immigration worried home countries about their economic growth through Brain Drain, the opposite can now be observed, with migrants finding potential for growth in their home countries through Brain Circulation or Brain Gain.

China’s groundbreaking economic development has earned the attention of many researchers. Economic growth has allowed for higher living standards

and potential for skilled individuals to make huge financial gains. China has experienced the benefits and knowledge provided by this new trend and implemented policies to increase or prolong it (Centre for China and Globalization, 2017). Being the top sending country of the world, China's government aims their policies towards ethnic Chinese living abroad, hoping to attract them back. The thesis will provide policy analysis of the efforts in attracting return migrants. Though the government acknowledges the growth potential and development that skilled migrants can bring, the efforts thus far have been lacking in effectiveness.

1.1 Emigration from China

China is the appropriate point of analysis for the research on return migration for a variety of factors, but chief among them is the fact that it has been the world's leading source of migrants since market-oriented reforms began in the 1970s (Xiang 2016). The migrants from China can be divided into two groups: the highly skilled and wealthy or low or unskilled seeking higher wages abroad. In recent years, the migration rate of the highly skilled or wealthy group has been on the rise while the latter group has been remaining stagnant (Xiang 2016). Following the loosening of immigration policies in the 1970s, the 1980s saw a huge increase in migrants exiting the country. Concerns regarding the Brain Drain followed and the Chinese government began efforts

to bridge the gap with diaspora members residing in host countries. The Central government tightened policies once again after the Tiananmen Square Incident in 1989. The suppressive stance caused less emigration out of China accompanied by little reverse flow of talent. A survey conducted in the U.S. in 1993 showed that more than 30% of Chinese emigrants felt that political instability prevented them from returning home. Between 1985 and 1999, almost two-thirds of students who had gone abroad decided not to return home. (Zweig and Rosen, 2003).

With so many ethnic Chinese going overseas, the government began to make provisions to gain back some of the human capital that was lost. Following the Tiananmen crackdown of the late 1980s, the central government took on a less suppressive attitude in the 1990s. In addition to maintaining relationships with overseas emigrants, the government carried out specific programs targeted at bringing back skilled migrants. The opportunities presented by the growth in the national economy as well as specifically-targeted programs may have swayed the level of return in a positive direction in recent years.

The groups of migrants at the center of my research will be highly skilled and educated migrants with an emphasis on the outgoing students who have left China to pursue higher education in developed countries. It is this

group of emigrants that receives the most attention in return migration research, due to the fact that upon graduation or completion of a program, they are faced with a big decision between their home country and the host country. Educated, highly skilled migrants can be beneficial for both countries, so they must weigh out the pros and cons of life in both countries, before choosing to settle down. Another important factor is that this category of migrants may contribute to the widening divergence between the skilled and unskilled in the Chinese economy.

Trends in the economy may have a role in immigration behavior of the citizens. For example, the income growth which has affected the overall population, asymmetrically benefitted the educated, skilled citizens, and created an increase in the immigrant investors leaving China. In 2014, Chinese nationals received 85% of the quota on all immigrant investor visas (EB-5) in the US (Xiang 2016). This number of investor immigrants also contributed to the high levels of capital outflow which amounted to a number between \$3.6 and \$6.1 billion. The growth in income also increased the likelihood of students pursuing an education abroad. Instead of being funded by the Chinese government, many students were able to go abroad with personal funds. The number of students going abroad to study increased from less than 50,000 in 2000 to more than 400,000 in 2013 (MOE, 2017). The turning point that we will aim to analyze is the phase when the rate of returning students went from

less than 10,000 in 2000 to more than 350,000 in 2013. Which factors would've led to the increase in opportunities for returning migrants? It may be the government which enacted laser-focused policies to encourage return, or the development of the science and technology sectors in mainland China. Most study abroad students have a non-isolated variety of reasons for their return, including cultural familiarity, familial ties, and economic gains. Through this study we will aim to evaluate the Chinese government's role in the decision of students to return to their home country of China.

The first aspect that will be analyzed is China's emigration trend through the Migration Policy Report. The table produced by the Migration Policy Report in their "Emigration Trends and Policies in China: Movement of the Wealthy and Highly Skilled" article shows the trend of increasing return migration. The first row displays the period from which the rate was calculated while the second row displays the net emigration rate during the period. The Migration Policy Institute uses this chart to describe the overall trend that has been occurring in terms of people choosing to leave mainland China to live and study abroad.

Table 1. Total Net Emigration Rate from China and Projected Rate from 1985-2020

1985-90	1990-95	1995-2000	2000-2005	2005-2010	2010-2015	2015-2020
0.0	-0.1	-0.1	-0.4	-0.3	-0.2	-0.2

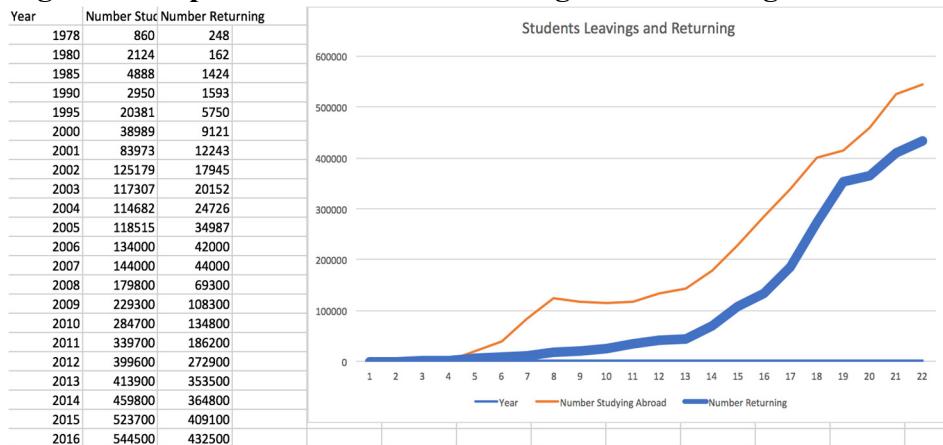
Note: Reprinted from *Emigration Trends and Policies in China: Movement of the Wealthy and highly skilled*, by Xiang, retrieved from <https://www.migrationpolicy.org/research/emigration-trends-and-policies-china-movement-wealthy-and-highly-skilled>, copyright 2016 by Migration Policy Institute.

The net emigration rate of China is calculated by subtracting emigrants leaving China from the immigrants coming in and the rate has been showing an interesting trend since the 1980s. In the table, it is of value to notice that the rate had decreased until the early 2000s and then began an upward rise to an extent. One of the purposes of the research is to determine the factors related to the turning points in trends of outbound and inbound migration. By taking a look at policies and programs of that specific time period, the results will show whether or not they were effective in bringing returnees to China.

In this research, we will take a look at the skilled return migrants, particularly students who leave China to pursue education in a foreign country. The Reverse Brain Drain, as described by numerous scholars, refers to those ethnic Chinese who initially left their homeland in pursuit of higher education, acquisition of a skill, or to relocate to a region of higher economic living standards (Li 2012). After spending a significant amount of time in a foreign

country, these skilled and educated migrants may choose to return to the country of origin, in which case they become return migrants. To show the trend of Reverse Brain Drain, I have utilized the data published from the National Bureau of Statistics of China. These trends in regards to Chinese students have been recorded by the Ministry of Education through *China's Annual Book of Statistics*.

Figure 1. Proportion of Students Leaving and Returning to China



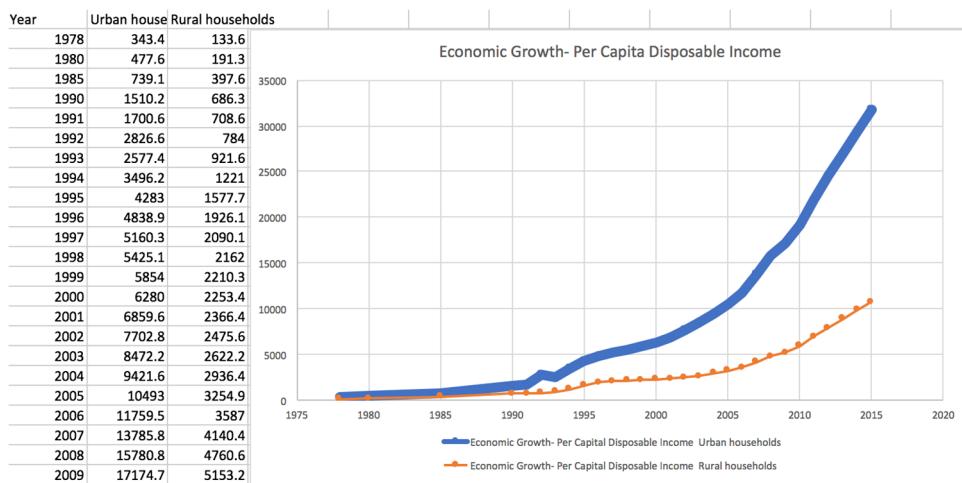
Note: Reprinted from *China's Brain Drain at the High End: Why Government Policies Have Failed to Attract First-rate Academics to Return*, by Cong, retrieved from https://www.researchgate.net/publication/240534512_China's_Brain_Drain_at_the_High_End_Why_Government_Policies_Have_Failed_to_Attract_First-rate_Academics_to_Return, copyright 2008 by ResearchGate. Additional data for the most recent years provided by *The National Bureau of Statistics of China* through *China's Annual Book of Statistics*.

The graph shows the annual rates of students both leaving and returning, which are increasing with each passing year. The thin line displays the growing number of students leaving and the thick line shows the number of returning students. Among the factors for the growing number of returnees is the effort of

the Chinese government, which implemented several policies with incentives to attract overseas Chinese. The combination of efforts has been viewed as successful, with a total of 1.44 million students returning by 2013, and the rate of returnees growing by 20% in the past ten years (MoE, 2014). Scholars have analyzed the decreasing gap between numbers leaving and returning, or the growing trend of both cases, to argue that the government's policies have been effective.

Another reason for return can be attributed to the rise in economic levels and living standards in China. The survey from 1993 mentioned earlier pointed to living standards and income level as the second biggest factor for not returning to China. The economic growth that followed in the early 1990s may have helped to reverse this trend.

Figure 2. Growth of Disposable Income in China



Note: Reprinted from *China's Productivity in Performance and Its Impact on Poverty in the Transition Period*, retrieved from <http://unpan1.un.org/intradoc/groups/public/documents/apcity/unpan017805.pdf>, copyright 2003 by Centre for the Study of Living Standards.

The figure above shows that the level of disposable income in urban and rural China increased dramatically from the period of 1975 to 2015. Between urban and rural areas, the urban areas experienced an even higher rate of growth than its counterpart. The thick line represents the urban areas' disposable income level while the thin line represents the same for rural areas. The economic growth in urban China attracted returnees since they would most likely settle in the largest and most developed cities such as Beijing and Shanghai.

Table 2. Government Spending on Areas of Development 2012-2016

20-1 Basic Stats on S&T Activities	2012	2013	2014	2015	2016
Stats on R&D Input					
Full-time R&D Personnel	324.7	353.5	371.1	375.9	387.8
Basic Research	21.2	22.3	23.5	25.3	27.5
Applied Research	38.4	39.6	40.7	43	43.9
Experimental Development	265.1	291.4	306.8	307.5	316.4
Expenditure on R&D (100 mill. Yuan)	10298.4	11846.6	13015.6	14169.9	15676.7
Basic Research	498.8	555	613.5	716.1	822.9
Applied Research	1162	1269.1	1398.5	1528.6	1610.5
Experimental Development	8637.6	10022.5	11003.6	11925.1	13243.4
Government Funds	2221.4	2500.6	2636.1	3013.2	3140.8
Self-raised Funds by Enterprises	7625	8837.7	9816.5	10588.6	11923.5
Ratio of Expenditure on R&D to GDP (%)	1.91	1.99	2.02	2.06	2.11
Scientific Papers Issued (10,000 pieces)	152	154	157	164	165
Publication on S&T (kind)	46751	45730	47470	52207	53284
Number of Major Achievements in S&T (item)	51723	52477	53140	55284	58779

Note: Reprinted from *China Statistical Yearbook 2012-2016*, by the National Bureau of Statistics of China, retrieved from <http://www.stats.gov.cn/english/statisticaldata/annualdata/>, copyright 2017.

The Chinese government has also been supportive of the Science and Technology sector, which enables development with the transfer of new technology. The growth in level of interest and investment in the Science and Technology sector of the Science economy can clearly be seen in the data from National Statistics. Using the most recent government data in regards to spending towards research and development from the National Bureau of Statistics, growth can be seen in various aspects. As shown in the table, the basic spending on S&T activities in all areas have increased in the years from 2012 to 2016. The rise in spending on the S&T sector may cause an increase in the number of available jobs, causing more students abroad to consider returning.

There are dissenting arguments as well, with some scholars who believe that the government's efforts, although they have been able to draw ethnic Chinese students back to China, have not been effective in bringing back the best of the best. In "China's Brain Drain at the High End: Why Government Policies Have Failed to Attract First-Rate Academics to Return" (Cao 2008), the data from the National Bureau of Statistics as well as recorded numbers of returnees with each major government program were shown as evidence of ineffectiveness. According to Cao, the programs that are aimed to induce the highly skilled migrants living abroad are not actually able to produce those desired results. The trends we have observed to this point lead us to believe that there has indeed been an upwards increase in the number of students going abroad from China as well as an increase in returnees. The increased government spending on Science and Technology as well as more specific programs will be further analyzed in this paper.

1.2 Purpose and Research Question

The purpose of this thesis will be to analyze and evaluate the government efforts towards return of skilled migrants in China. By looking at specific policies and programs aimed at bringing migrants back to their home countries, the goals of the government and the strategies to reach those goals

will be analyzed and evaluated. The research questions underlying the thesis is: how effective have the policies implemented by the Chinese government been in inducing migrants to return? In order to answer this question effectively, related questions will also be answered. What are the characteristics of policies at the national level? Are there significant differences between successful policies and unsuccessful policies? In the findings and discussion sections the answer to these questions will be discussed for the future of Chinese overseas returnees' policies.

The main argument is that the current policies in place are not effective in bringing return migrants and meeting the goals of the Chinese government. There are key characteristics that cause differences but the main finding is that most programs have effects, but not the desired effects. Desired effects of a policy help to determine whether or not there was effectiveness. In analyzing the government's efforts, it is important to note that there is a difference between finding "effect" and "effectiveness" (Czaika and De Haas, 2013). "Effect" refers to the outcome of a policy, whether they be positive, negative, expected or unexpected. "Effectiveness," on the other hand, refers to whether or not the policy has a desired effect.

In order to check for effectiveness, it is imperative that we look at what the policy or program had intended to achieve and compare those goals to what

the actual effects were. By looking at the key characteristics of each plan, then analyzing the implementation process as well as the final effects, we will try to reach a summative evaluation of each policy or program in order to determine its effectiveness. By describing the main policies and analyzing their effectiveness, the thesis will attempt to answer which aspect of the policy or program may have caused ineffectiveness in terms of inducing return migration.

A recent study conducted by the Centre for China and Globalization (CCG) in 2017 has compared China's policies with those of other policies from successful developing or newly developed countries and found that there is significant "room for improvement" (CCG, 2017). Using the available information in studies like these, the most representative government-funded and private-funded programs will be analyzed using a program evaluation framework (Weiss, 1972). A government policy evaluation framework (Gornitzka, 1999) will be used to evaluate government policies or easing of laws for returnees in China. By using the dual analysis of a project-oriented approach and a policy-oriented approach, the objective is to gain insight on which area of return migration approach is weakest in overall effectiveness.

The research in these programs is of value to the home country's approach towards return migration. Many believe that return migration may offset the negative effects of the brain drain (Docquier, 2007). Reverse Brain

Drain is typically categorized into two types, the development of market opportunities and higher demand of high-level skilled workers in the labor market (Zweig et al., 2006) and the role of the state, that invests on sectors such as science and technology in order to increase development as well as introducing returnee policies and programs (Simon and Cao, 2009; Zhao and Zhu, 2009; Zweig and Wang, 2012). The focus of this thesis will be on the latter. The government efforts will be studied to determine effectiveness of policies and programs.

1.3 Terminology

The Merriam-Webster dictionary definition of the Brain Drain is “a situation in which many educated or professional people leave a particular place or profession and move to another one that gives them better pay or living conditions.” This phenomenon, exacerbated by globalization which increased the disparity between the wages of the developed and developing countries, has had widespread effects on societies at large. From the perspective of the receiving country, the Brain Drain may cause increased competition and productivity, which are beneficial aspects, to an extent. From the sending country, the Brain Drain may represent a growing concern over capital mobility and loss of valuable human capital.

The terms Brain Gain and Reverse Brain Drain are used interchangeably to represent a method to “counterbalance the negative effects of the brain drain” (Mayr and Peri, 2008). The initial Brain Gain of the host country is the counterpart of the Brain Drain of the home country. When migrants first leave the home country, there is a corresponding Brain Drain in the country they leave behind as well as a Brain Gain for the country they enter. After time, for various reasons, the emigrants may decide to return to the home country which sparks a Brain Gain or Reverse Brain Drain for the home country. This process of Brain Drain and resulting Brain Gain may have given way to the phenomenon of Brain Circulation. According to Saxenian (2002), Brain Circulation seems to allow “high-skilled immigration” to “increasingly benefit both sides (host and home countries).” In this view, Brain Circulation emphasizes the advantages of mobility, and the fact that leaving and returning may be beneficial for both countries. Among the benefits may be the expansion of diasporas, knowledge transfer, and international exchange between the two countries.

Push factors of migration refer to the reasons why people leave the specific home country. The most significant push factors include political unrest, fear, poverty, unemployment, or low living standards. On the other hand, the pull factors of a country include the benefits that cause migrants to

come to that specific country including political safety, stability, job opportunities, and high-level education (*emigration. Link*). According to Lee's Theory of Migration or the Push and Pull Theory, each side possesses factors that are associated with the decision to migrate and the migrant weighs out the pros and cons of the push and pull factors before making the decision to migrate. If we follow this logic, the pull-back factors refer to the aspects that pull migrants back to their home countries after initially leaving. This new area of the Push and Pull Theory needs to be explored in more detail to determine the most significant factors that influence migrants to return.

1.4 Literature Review

The starting point of the research concerning China's returning migrants should be the cause of why overseas migrants are choosing to return in the first place. The biggest shift that has taken place in the last four decades in China has to be within its economy. Today, China "stands at a critical juncture" when it comes to the "development of its economy." This means that while the old growth model of the country was focused on production of low-skilled, labor-intensive goods, the country has begun to recognize the need to "upgrade its

industrial structure” which also means to shift the focus of production to “service and knowledge-based activities” (CCG, 2017).

“Attracting skilled international migrants to China: A review and comparison of policies and practices” produced by the Centre for China and Globalization best introduces this ongoing phenomenon. According to the article, scholars such as Lin (2014) estimate that between 2020 and 2030, China has the potential to become a high-income country, that has an excess of 80 percent of the population that lives in industrial centers or urban cities. To be able to reach this potential, many believe that “China will need large numbers of educated and skilled talents taking part.” The article goes on to explain why China needs to encourage returnees and how they are planning to do so. By looking at an overview of China’s talent attraction system, it can be observed that the government has been engaging with talents abroad at both the central and regional levels. These efforts are carried out through the Talent Office at the Central Government for the national level, the Talent Office at provincial and local government levels, as well as in Talent hunting stations at the local level. The CCG provides a snapshot of the current situation in China with regards to the efforts towards returnees and goes on to give descriptive insights on the major policies. The examples of policies that have been set forth by the paper will provide case studies for analysis through this research.

One of the representative papers which reveals the ineffectiveness of current Chinese policies would have to be “China’s Brain Drain at the High End: why government policies have failed to attract first-rate academics to return” (Cao, 2008). In the paper, the author’s claim is “Although we cannot assume that all non-returnee academics of Chinese-origin are the best and brightest, there is little doubt that the best and the brightest have not returned.” This bold claim is explained by first giving a historical overview of the various policies on students going abroad from China. Between 1978 and 1979, the Chinese government had sent about 3,000 students and scholars to various developed countries and thus began the open-door policy (Zweig, 2002). During the following years of 1981 to 1989, self-sponsored overseas studying was permitted and utilized heavily until the Tiananmen Square crackdown of 1989. Although the number of outgoing students was limited during the time due to the strict measures taken by the restrictive central government, the students who were already abroad during the political unrest decided to make their time abroad permanent.

A shift in the government’s stance took place in 1992, when Deng Xiaoping reaffirmed the need for reform and “called for return regardless of their (students’) political attitudes.” He took on the position that students should

“return home and make contributions” (Cao, 2008) The policies were loosened up and opened both to students leaving and returning.

In line with these new objectives, the Chinese central government implemented key programs and policies in order to attract overseas students. Cao describes the various programs that were established by the Chinese government, such as the One Hundred Talents Programme, by the Chinese Academy of Sciences (CAS), and Cheung Kong Scholar Program by the Ministry of Education (MOE). The general effect of each program is shown on a table that includes the year of implementation, the institution hosting the program, as well as the numbers of scholars successfully attained through the program.

Table 3. Programs Targeting Returnees

Program	Year initiated	Agency in charge	Numbers successfully attained
Hundred Talents Programme	1994	CAS	800
The National Science Fund for Distinguished Young Scholars	1994	NSFC	1200
Hundred, Thousand, and Ten Thousand Talents Programme	1995	MOP	10,000
Chunhui Programme	1996	MOE	10,000
Cheung Kong Scholar Programme	1998	MOE	800

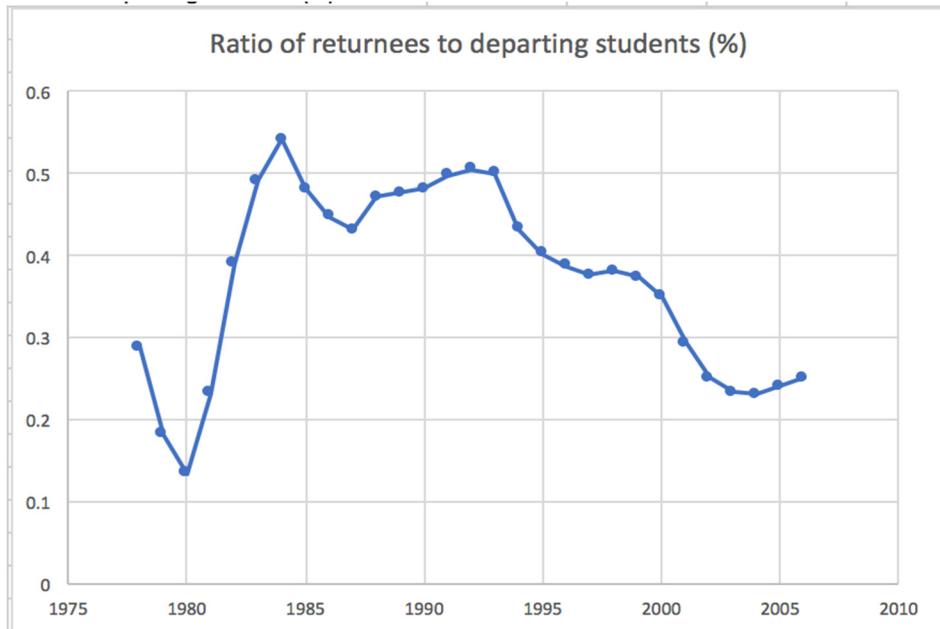
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The table in this paper will be utilized in my research as a list of significant programs to analyze for effectiveness. Cao uses his paper to emphasize the fact that certain numbers and figures released by the government may be misleading as to exaggerating the actual success of a program. We will later return to this list to analyze the programs in further detail, using a program

effectiveness framework. It must be noted that the mere numbers of Chinese academics attained does not give many details about the programs or success of each returnee. There are many other factors to consider such as length of the program, specific incentives given to the returnees, and duration of stay. The projects the returnees engaged in, as well as successful achievements may also signify effectiveness of the programs. The list reprinted from Cao's paper gives a good idea of the agencies in charge and programs that must be analyzed in closer detail in the upcoming chapters.

Next, the author describes the return rates of Chinese study abroad students overall. The author's argument is that although the Chinese government claims that programs and policies have been successful because returnees have been coming back in larger numbers, this is not the whole story. He shows that although more students are indeed returning, there are also more students leaving to study abroad than ever before. In the following graph, Cao illustrates the ratio of returning students to departing students. By graphing the ratio, he is able to show the real rate of return, which is not consistent with arguments made by supporters of the programs, who say that the programs have persuaded overseas students to return by the masses.

Figure 3. Ratio of Returning Students to Departing Students from the years 1978-mid to the 2000's



Note: Reprinted from *China's Brain Drain at the High End: Why Government Policies Have Failed to Attract First-rate Academics to Return*, by Cong, retrieved from https://www.researchgate.net/publication/240534512_China's_Brain_Drain_at_the_High_End_Why_Government_Policies_Have_Failed_to_Attract_First-rate_Academics_to_Return copyright 2008 by ResearchGate.

Unlike the graph in Figure 1 which shows both the number of students leaving and the number of students returning every year, this graph produced in Cao's paper shows only the ratio of returning to departing students. When the ratio is graphed, we can see that the real trend of students returning to leaving is not actually increasing, but has been decreasing since 1993. Using these

numbers, Cao points to 1993 as the turning point for when more students decided to stay in the host countries than return to China. This is an important year because it was from this point forward that the ratio of students returning to China began to continually decrease. At the same time, the early 1990s marked the first implementation of major government-funded policies such as the Hundred Talents Program. The overlap between program implementation and decreasing returnees begins in 1993, and supports the argument that the programs that began in the 1990s have not been effective in improving the rate of returnees.

The most recent comprehensive analysis on China's efforts to induce reverse brain drain can be found in "Attracting skilled international migrants to China: a review and comparison of policies & practices," written by the Centre for China and Globalization (CCG, 2017). This study uses the cases of return migration in Germany, Japan, and Singapore to compare the policies and programs with those implemented in China. While it gives an overview of the case in China as well as details about the programs that have been established thus far, it also goes on to provide analyses on the programs of other countries such as Japan and Singapore. The effectiveness of policies is analyzed by providing evidence on the outcomes of the policies, and adding evidence through small-scale surveys conducted with foreign personnel who are working

in the four countries. Though the number of surveyed respondents was quite small, the responses were valuable because they rated key aspects such as administrative procedures, handling of visa claims, living/working conditions, and parts of post-arrival experience such as taxes, health care, and provision for spouses and children.

The overview of China's programs was effective in giving an outline of the top-down approach of the Chinese government. The report broke down the national-level programs and regional-level schemes to show the government's strategy. The CCG's description of regional-level schemes coincided with a study which pointed to the disparity between effectiveness of regional-level programs (Zhang, 2010). Due to the top-down approach and selective funding by the central government, the major cities of Shanghai and Beijing were most successful in initiating programs, building tech zones, and attracting returnees. These "first-tier cities" were successful with Shanghai attracting 20,000 overseas returnees who built 4,000 new business ventures and Beijing achieving the establishment of the "Chinese Silicon Valley" in Zhongguancun where 12,000 returnees and 5,000 companies resided by the end of 2011.

This report by the CCG evaluates the programs at the national and provincial levels then moves to government efforts to ease the process of legal entry into the country for foreigners. The study goes on to discuss visa policies

in China for foreigners as compared to the policies in other countries, evaluating the speed and simplicity of the process. The comparative analysis on programs that resembled those implemented in China was a good method to see the pros and cons of each policy. The limitation of this comparative analysis could be the disparities between the other countries and China. China also has a different historical and cultural background in terms of treatment of returnees and foreigners. By including a social context for the other countries and comparing the policies' results, the report gave readers insight on which policies have been implemented in China as well as their possible shortcomings.

The surveyed respondents in the study were asked to rate different aspects of their experience in the host countries according to factors such as efficiency in dealing with immigration paperwork, working conditions, infrastructure, provisions for children and spouse, financial and tax policy system. China scored poorly in the questionnaire overall for reasons such as “complicated and time-consuming immigration procedures,” as well as “foreign talent efforts (being) too focused on attracting very ‘top tier’ talent, as opposed to well-qualified and experienced foreign immigrants.” These factors seemed to be holding China back from accessing the skilled foreign talent needed to aid in development.

Although the CCG report analyzed the perspective of foreign immigrants who have moved to China without ethnic ties, many of the shortcomings apply to programs aimed towards Chinese overseas students as well. Some of the final concluding suggestions in the report were for the central government to “avoid setting the bar impossibly high for all but the extremely high end of foreign talent” which was a shortcoming that came up when discussing the limited effectiveness of national programs as well as fulfilling positions for professors and researchers. Another suggestion was to “ensure generous provision for foreign talents’ spouses and children” which was relevant due to the concern for family members, particularly jobs for spouses and education for children being high on the list of considerations before a migrant decided to return. The decisive factors of China’s programs as well as descriptions of successful return migration policies in the other countries, provided a solid platform from which to start my analysis of China’s policies. The comparative analysis by the CCG revealed aspects that should be analyzed and evaluated when looking at the specific policies.

As the key papers have shown, the discussion regarding return migrants in China has a variety of policies, shortcomings, benefits, and losses involved. There is significant support for the argument that the Brain Drain has been prevalent in China and efforts must be made towards reversing the effects. The

methods towards reversing the Brain Drain have been argued by researchers. The central government's significant role in encouraging return is often supported as well as questioned. The two biggest arguments are that the central government's programs are effective in bringing talent back from overseas, as well as the argument that although there are returning students, it does not mean that they are the best returnees to help China's development. The second argument goes on to question the effectiveness of the government's efforts that seem to be narrowly aimed at aiding the growth of major cities and encouraging returnees in specific sectors.

There are also dissenting views on the attractiveness of policies that have been implemented so far, in terms of salary, benefits, conditions of the job, support for the spouse and family, as well as research opportunities presented for the returnees. The policy effectiveness depends on the aim of the agency in charge as well as the sector involved. The differences, strengths, and weaknesses will be discussed in the analysis of each program. The research has revealed different layers and aspects of policies as well as arguments that support and criticize efforts made by the central government. The thesis will aim to present arguments to support a critical view of the programs and policies as well as show ineffectiveness through policy evaluation.

1.5 Thesis Structure

The introductory Chapter 1 of the thesis aimed to describe the topic by showing the trends of migration from China as well as explaining the push and pull factors of emigration. The significance of China was described through discussion of its position as the leading sending country, as well as figures that show the significant rates of students who choose to go abroad. The previous research discussed the major arguments and key questions being answered within the study of return migration. There are many existing layers of migration and perspectives being discussed and in the following chapters, the thesis will attempt to narrow down the research in order to evaluate for program effectiveness.

Chapter 2 will introduce the analytical frameworks used to evaluate China's programs and policies. The two frameworks used will be Gornitzka's Framework for the Policy-Oriented Approach and Weiss's Framework for the Specific Project-Oriented Approach. The general and more largescale government policies will be evaluated based on Gornitzka's Framework because it includes aspects such as the values and beliefs behind the policy as well as policy linkage to previous policies in order to check for coherence or consistency in the government's approach. Gornitzka's Framework would be sufficient in describing the major breakthroughs in the policies analyzed as well

as evaluating whether or not the new policies have aided in the development of return migration. Weiss's Framework can be aligned to specific projects as it points to key features of a program when evaluating its effectiveness. It judges specific aspects such as the scope, size, duration, complexity, and number of members in a program. The differences in the two groups of policies that will be evaluated can be appropriately analyzed using the two separate frameworks.

In Chapter 3, China's central government policies from the Development period will be introduced and analyzed with Gortnitzka's Framework. The two policies, "The Provisions" and "The Opinions" will be evaluated upon further analysis of the context and purpose of each policy. In between chapters 3 and 4 will be an evaluation of a different type of government effort, the Chinese Silicon Valley. Zhongguancun, which has earned the nickname of China's Silicon Valley, was constructed and planned by the central government, but has had an impact through specific fields in China's growing economy, such as research and technology. The city itself cannot be distinguished as a policy or a program, but has a few characteristics related to both categories, so the solution will be to analyze and evaluate the city of Zhongguancun using both of the analytical frameworks. The tech zone's location in the bustling city as well as ties to the central government make it an appropriate subject for evaluation.

Following the policy evaluation, there will be an analysis of two major specific recruitment schemes, The Thousand Talents Policy and The Cheung Kong Scholar Program in Chapter 4. Since they are both specific in terms of academic field, positions available, and rewards for the chosen scholars, it would be appropriate to analyze how they were constructed and carried out. Weiss's more specific framework will be used to evaluate the effectiveness of these programs. Through gathering as much data and information as possible on the two major programs, each project will be evaluated based on the criteria presented by Weiss.

In the final chapter, the major findings will be discussed with implications for the future of government programs in China. The major drawbacks, lack of emphasis by the government, as well as aspects that have not been discussed in previous policy evaluations will be described in the final chapter. The thesis will conclude with critical arguments about the current efforts discovered within the two frameworks.

2. Research Methods

The case study of China's Return Migration has been looked at from many different perspectives, from analyses of the government policies to the decision processes of returnees. The basis of this research has its roots in the motives behind migration and return migration. Return migration has a variety of implications on the receiving country's society, political atmosphere, as well as on the economy. The economic effects of migration and return migration have been studied extensively by previous researchers. Within the economic approaches there are the Neoclassical Economics and the New Economics of Labor Migration, within the sociological approach there is Transnationalism, and the psychological approach includes factors such as acculturation, culture shock, and culture identity (Cassarino, 2015). Unlike previous research, the focus of the thesis will be on the government's role and effectiveness of policies and programs.

The focus on policy and program evaluation is due to the extensive efforts by the central government from publishing legal documents to conducting large-scale surveys. The government has also encouraged scholars to return and teach at top Chinese universities through scholarships and other incentivized programs. There have been many research papers written on the economic causes and effects of return migration, as well as the political

implications. The area found to be lacking was the evaluation of specific government-funded policies. According to statistical evidence shown by the Chinese government, most have assumed that policies have been effective. The argument and position of this research is that the policies and programs may not be as effective as many believe.

Qualitative analysis will be utilized to do evaluative research on the topic of return migration in China. The case of China's Return Migration will be analyzed from the policy analytical perspective. By providing evidence on intent, policy implementation, and effects of major policies and programs related to return migration implemented through the central government, the aim of the research is to contribute to the determination of effectiveness of China's return migration policies. The main analysis will cover the programs and policies implemented by the government and their effects. By comparing the goals and objectives detailed in the programs to the final results and effects, significant factors that may have led to ineffectiveness will be emphasized. Since the objective of this paper is to analyze the effectiveness of government policies, it will be useful to gather information through official websites of the programs, policy reviews or overviews, and also look at the surveyed results from actual returnees or those still living abroad with the intention of returning at some point in their careers. In pursuing this research, the programs and

policies with survey results from relevant studies will also be analyzed as supplementary evidence.

2.1 Analytical Frameworks

Since the 1990's, the Chinese government has made various efforts to attract overseas Chinese both at the national and municipal levels, including efforts to ease the process of gaining legal residence, introducing incentivized and highly distinguished programs, and establishing tech zones in hot spots throughout the country (Zhang, 2010). The two areas that will be analyzed to answer the original research question are policies and projects. Although many studies use these two words interchangeably, they have distinguished definitions for this research.

For the policy-oriented projects, I will be paying closer attention to the formal policies introduced and implemented by the central government. In general, these programs have a wider reach and follow the national ideal and strategy to attract more ethnic or foreign talents. The policy-oriented programs may also be characterized as more general in terms of their objectives, and based on ideals or the big picture more than specific plans. When it comes to the project-oriented programs, I will be analyzing more specific narrow projects that may or may not be directed by the central government. In many cases the projects could be established and funded by universities or the private sector

businesses. Project-oriented programs may be heavily funded but only reach a small audience and have the purpose of bringing back a small pool of highly skilled return migrants for specific sectors or educational institutions.

The Chinese central government's policies vary widely according to the purpose: for example, ease of immigration can be achieved through new visa policies while talent programs are incentivized and funded for the purpose of bringing back just a small pool of talented returnees. In order to highlight key differences and evaluate each policy effectively, two separate frameworks will be used to evaluate the specific efforts. The focus of this paper will be to evaluate the most representative or well-known programs that have been carried out in China. The individual policy analysis as well as comparison will point to specific reasons why the Chinese policies may lack effectiveness.

Policy-oriented programs can include the central government's efforts to change the laws for students who are going abroad or returning, offering incentives or visas with special privileges. Policy can encompass any process that makes life for returnees in China easier or differentiated from non-returnees or local citizens.

In particular, this study will analyze the government's migration policies and stance towards study abroad students in the period from 1992-2006. This period was described as the "Developing Phase" during which

return migration was emphasized and encouraged by the central government (Zhang, 2010). Using the framework by Gornitzka, policies such as the State Council's Proposal of No.44 Document (Circular of Matters Relating to Students Studying Abroad) and more recent policies such as the Provisions on Encouraging High-level Overseas Highly Skilled People Return to the Country and Establishing their own Business will be analyzed. The provisions and policies set forth by the central government are influential to the strategy of smaller local programs and may give a general idea of what the government's goals are. Zhongguancun, also known as China's Silicon Valley, will also be analyzed as one of the policy-oriented programs. The city was planned and designed to have a more widespread and long-term effect, which makes it an appropriate national policy to analyze in the study.

Within project-oriented programs, specific government-funded projects made to induce skilled return migration will be analyzed, most notably The Thousand Talents Policy and the Cheung Kong Scholar Program. These two programs, besides being well-known and documented by various sources, have strong incentives and implement pull factors to attract applicants. The programs for the policy-oriented category were chosen based on their scope, objectives, and availability of information. While the central government may play a role in both types of policies, the process as well as effects may be different, so two

frameworks will be utilized. The policies towards students and overseas education should be separated from the incentivized projects mentioned in the section before because they have different goals and serve separate purposes.

2.2 Gornitzka's Framework for the Policy-oriented Approach

The Chinese central government's position regarding "overseas study policy" which refers to the "policy, rules, and regulations in relation to the temporary and permanently returned overseas students" has developed drastically in the last several decades. The analysis in this thesis will cover the significant turning points in Chinese migration policy history. In order to analyze such policies, the framework in "Governmental policies and organizational change in higher education" (Gornitzka, 1999) will be used for the government's policies.

Gornitzka introduces five elements of policy content. First, the policy problem asks "what are the problems that the policy sets out to address?" To answer the question, the history of the policy and how it came about will be addressed. In terms of government policies, many of the efforts during the "Developing Phase" were results of political desires to emphasize the importance of development through returning of migrants. Next, the policy objectives need to be observed to answer the question "what are the desired

outcomes?” The outcomes of a policy may change “according to whether policies and programs are directed at changing, adjusting, or maintaining behavior of target organizations.” The normative basis of a policy describes what values and beliefs the policy is based on. By discussing the policy instruments, the question of how or by what means the government’s pressures are being exerted can be answered. Policy linkage refers to the “degree of coherence or consistency of policy” and the “linkage over time” as well as other related policy fields.

To check for effectiveness, the wording and intent of the policies will be analyzed in detail. Through looking at these five elements of policy content for the aforementioned Chinese government policies, it will be analyzed whether or not the policies had an effect on the ratio of students who returned to China within the Developing Phase period or even after.

2.3 Weiss’s Framework for the Specific Project-oriented Approach

For the assessment of specific programs that induce returning migrants, the framework introduced in Weiss’s “Evaluation Research: Methods for Assessing Program Effectiveness” will be utilized. In the paper, the author addresses the importance of evaluating programs in order to improve decision

making, and to make suggestions for future programs. The study finds there are four key features of program evaluations. First, the utilization of research methodology is used to “measure the effects” of a program. The next step is to observe the outcome or find the effects of a program. Then, the task is to utilize explicit criteria for judging how well a program is currently doing. Finally, the last step is to give social purpose to the program and contribute to subsequent decisions regarding it (Weiss, 1972). These steps will be followed to evaluate specific projects aimed to bring back Chinese students.

The characteristics to observe, according to the model, include the scope, which describes the country, region, state, or city that the program covers. Next, the size, or the number of members in the program should be considered. The duration of the program as well as clarity and specificity allows evaluation of how well-defined and precise the input is. The complexity and time span of goals and innovativeness of the programs should be observed. In this framework, the key difference is between “what is” and “what should be.” The process of evaluation in this model starts by finding out the program’s goals, then translating the goals into measurable indicators which show achievement, collecting information about the indicators for participants, and lastly comparing the results with the initial goals. The author warns evaluators

about ambiguous goals and possible unexpected consequences, as well as irrelevant features that may not have a big effect on the results (Weiss, 1972).

Chapter 2 has introduced the logical steps leading to the two major frameworks that the research will utilize. In order to observe effectiveness of government policies, the evaluation framework by Gornitzka will be applied to major policies introduced by the central government. Gornitzka's framework will allow for an in-depth analysis of China's governmental policies and point to any shortcomings that led to ineffectiveness. For more specific programs, Weiss's framework will be applied. In the case of projects, the narrow aim, small scale, and specific requirements may be observed in close detail using this framework. Using the two separate frameworks, the significant efforts of the central Chinese government will be evaluated in the following chapter.

3. Evaluating Government Policies

3.1 Chinese Government Issues “The Provisions”

The 1990s sparked an active interest in the government to encourage overseas ethnic Chinese to return in order to help develop the economy, bring new technology, and increase the positive effects of globalization. In an effort to reach these goals, a new policy was announced called Provisions on Encouraging High-level Overseas Highly Skilled People Return to the Country and Establishing their own Business or “The Provisions” as we will call it. These “Provisions” were first proposed by the Ministry of Personnel and approved by the CCP and the State Council in 2000.

“The Provisions” were seen as a complement to a previous 1992 policy. The new policy sought to address the issues in the 1992 policy which made it far too vague and unclear. Although it helped to ease regulations for students returning, there was a lack of substantial regulations put into effect for those who returned (Zhang, 2010). When the new policy was introduced in 2000, the shortcomings of the 1992 policy were meant to be addressed. “The Provisions” had six major goals. The first aim was to attract high-level skilled personnel who have graduated from foreign institutions and have had working experience abroad. Next, the aim was to allow some industries such as banking, insurance, stock exchange, and state-owned enterprises to have autonomous control over

attracting talented individuals in their own ways. Another goal was to allow the high-level skilled people to keep and maintain their long-term or permanent residence in host countries (i.e., green card or permanent resident status). The government also tried to provide wages that were two to three times higher than the wage level at the time and in some cases provided a monthly allowance that was five to ten times the current wage. The fifth goal was to give returnees the right to social welfare including a housing subsidy, medical treatment, and insurance. The central government aimed to provide assistance in finding jobs for the returnee's spouse and education for the children. The policy objectives were more descriptive and direct than previous policies, allowing "The Provisions," which were approved in 2001, to have more focused goals.

The normative basis for this new policy shows a shift from the values and beliefs represented in the 1992 policy. Compared to the 1992 policy which sought to attract returnees who had left for political purposes, "The Provisions" were based on more economic incentives. The idea behind the new policy was that the students abroad should be encouraged to return in order to be of service and help the development of the home country. The value or belief was that in supporting the home country, the returnees could also gain economic benefits from the central government.

One of the policy instruments used to implement “The Provisions” was a classification of jobs into seven job types that would be considered the high-level highly skilled returnees jobs. The central government also attempted to provide flexible methods and the provisions intended to reduce barriers that would restrict students from coming back to China, including visa limitations and variations in wage. The policy linkage from previous government policies and “The Provisions” was not as strongly linked to previous policies because of the shift mentioned before. Although the goals and objectives were coherent and followed the intent of the government in the context of the specific time period, there was a definite change in the attitude of the policy in 1992 and in 2000. The major difference was that the 1992 provision “supported people studying abroad” and “encouraged people who have completed studies to return home” but “The Provisions” shifted the focus to the latter half of the 1992 goals. The most significant contribution of the new policy was that it expanded upon and “complemented” the goals already set out in the 1992 policy.

To evaluate “The Provisions” of 2001, the strength is that it adds an element of specificity to the original 1992 policy values. By making the goals more clear and descriptive, the Chinese government was able to narrow down the characteristics of the returnees that they require and want to attract back to the homeland. It was also clear what the returnees would be offered in terms of

incentives to return. The value shift from the 1990s to the early 2000s can be seen through the intent of this new policy. The government changed its position to match what students overseas were prioritizing. Though the government put effort into achieving its goals with emigrants' desires in mind, the policy was lacking in many ways.

The weaknesses of the policy were that it did not explicitly state the instruments or institutions that would be carrying out the programs for returnees. There was no focus on the specific sector or types of businesses that would be supported through the central government. It also had broad goals and incentives that could be made clearer by explaining what the options are for spouses and kids, describing the positions that returnees would be able to take, or giving a clear timeline of how long the programs would run. Also, it is unclear whether or not returnees were always rewarded with the incentives they were offered, such as high salary. Through various surveys it was evident that one of the popular reasons for staying abroad was the higher wages offered in developed countries. The central government lacked a specific aim with "The Provisions" such as clearly set goals, specific fields to target, and implementation procedures or programs. Although the objective was clearer than in previous times, the mechanism was still lacking with this provision.

3.2 Chinese Government Issues “The Opinions”

Most recently in 2017, the CPC Central Committee and the General Office of the State council, the Ministry of Personnel (MOP) issued “The Opinions on the work of the opening-up of education in the new era” which aimed for the opening-up of education at a higher level. With the general goal of providing a higher level of better education, this policy was directed to all regions and departments within the country (Education and Research Section of the Australian Embassy in Beijing, 2017). The major goals of the policy included implementation of the Party’s educational policies aimed at serving the CPC and the state’s purpose, coordinate exchanges among people and organizations, expand opening-up of policies, and rejuvenate the Chinese nation.

Using the 5-element framework introduced by Gornitzka, the “Opinions” can be analyzed for effectiveness. This policy aims to address “how to focus on the central task, serve the overall interests, take initiative, be inclusive and open” as well as “how to better serve overall economic and social development.” In order to solve these issues, the policy has more specific objectives. By 2020, it aims to improve China’s study-abroad service system, increase the quality of the study-in-China program, improve cross-border education, and develop bilateral or multilateral cooperation in education. The

normative basis of the policy come from Deng Xiaoping's Theory as well as the important thought of Three Represents. It also uses the Scientific Concept of Development for guidance. In terms of the Policy instruments, the policy aims to improve the working mechanism of "selection, dispatch, administration, return, and service." In order to improve the mechanism, the state will set up arrangements between source countries and students of specific majors and build upon the professional service system of study-in-China. The policy aims to improve the access system, reform the approval system, implement an evaluation and accreditation process, and strengthen the exit mechanisms. The policy linkage is focused on implementing the spirit of the 18th CPC National Congress as well as the 3rd, 4th, and 5th plenary sessions of the 18th CPC Central Committee. The theoretical basis as well as the specific planning was clearly emphasized in the 2017 policy.

When compared to "The Provisions," the more recent "Opinions" include much more detailed and specific goals to reach its goals. The clear policy linkage to the theory of Deng Xiaoping gives insight on government attitude and stance, related to historical beliefs. The effects of the policies were that the government's motives were specified, and clear goals were made in terms of increasing the accessibility of education and encouraging students to stay or return once they have studied abroad. The policy has yet to prove

successful due to the fact that the goals are made for the upcoming years and the specific programs have not been carried out yet. Still, considering the aspects discussed, it seems that “The Opinions” will have a more widespread effect. In a critical view, the implementation process will be key in the resulting effectiveness of the policy. Though the plan and objectives are clear and sound, it has yet to be seen whether or not provincial governments or individual departments will heed to the policy. The evaluation based on normative basis, policy linkage, and policy goals is that it will be much more effective than the previous policies for its clear-cut goals and specific points of emphasis.

In Chapter 3, the two provisions by the central government were evaluated based on Gornitzka’s framework in which the problems addressed by the policy, objectives or goals, values and beliefs, as well as policy linkage to previous policies were described. The first policy, “The Provisions” set out to make clear goals reflecting the central government’s stance on overseas students. By showing a more open door and incentive-based policy, “The Provisions” aimed at shifting the government’s stance from strict to more open to sending as well as receiving students. In contrast, the 2017 provision “The Opinions” specified which values and beliefs the policy reflected, which goals it had by the year 2020, and how it would achieve those goals. In doing so, the second more recent policy was evaluated to be more precise and overall

effective as a government policy. Though the real effects are yet to be measured and will show difficulty in finding measurements, it seems that for the policy design, the 2017 “Opinions” have far exceeded the previous policies.

4. Evaluating Specific Recruitment Schemes

4.1 The Thousand Talents Policy

The most representative and significant policy established by the Central government is the 1,000 Talents Policy, implemented in 2008. This policy is widely known as a distinguished, top-notch program intended to bring back high-level returnees who are incentivized to contribute to the nation's growing sectors such as science and technology. According to "China's Pursuit of Overseas Brains: The 1,000 Talents Policy" the program rewards selected scholars a prize of up to 1 million RMB (140,000 euro), access to research funding to the amount of up to 5 million RMB, as well as on-campus housing and health insurance.

In order to evaluate this policy, we must first observe its characteristics. The scope of the program is very widespread, as it applies to the overseas skilled scholars and scientists residing in developed countries such as the U.S., countries in the EU, and other Asian countries. The upper age limit of applicants ranges from 40 to 65 years of age, depending on the exact policy that is being applied for among 1,000 Talents Policy, the Foreign Experts version, or Youth Talents Policy. The size of the program is significant in that it brought over 6,000 awardees to mainland China during an 8-year span. The program allows for funding from the government for a period of 3 to 5 years. The

program's input includes a base level of funding, with additional funding for extended research, on-campus housing, health insurance, and other incentives for the returnee's spouse and children. The specific details of the program are quite well-defined and applicants may choose between the innovative or entrepreneurial route, with the innovative route offering positions in universities or research institutions, as well as the option of working full or part time in China. The main goal of the program is "to attract and support high-level talents from overseas, in scientific research, innovation, and entrepreneurship" (1,000 Talents Website).

Since the year of its establishment, The Thousand Talents Policy has developed 6 subprojects that categorize the program into long-term and short-term programs, as well as providing a category for foreign experts. The program is well-known globally and helped China gain a reputation as one of the "most assertive in the world" with regards to "introducing policies to reverse the brain drain." This program was aimed at helping China to become a "global economy and a science powerhouse" (Sharma, 2013).

In order to evaluate whether the program has been effective, we must ask ourselves "does the program do what it has set out to do?" The program sets out to bring overseas Chinese as well as foreign experts to China in order to bring "scientific research, innovation, and entrepreneurship" to the country. The

initial goal was to attract 2,000 leading researchers over a period of 10 years. This goal was reached, as there have been 3,000 returnees recruited in less than 5 years.

The returnees who were chosen to return were heavily from the U.S. (66%), while the remaining 34% were from various EU countries, Asian countries, and others (Bekkers, 2017). This breakdown is relatively similar for different versions of this program. The significant portion of returnees coming from the U.S. shows that the program is drawing in educated scholars, from an institution or company in the most developed region.

Although the percentage of returnees from developed countries may be satisfactory, there are some researchers who disagree. Some researchers believe the returning scholars are not the best of the best, meaning that a large percentage of them did not receive their Ph.Ds. in the U.S. and if they did, they are not choosing to return to China on a permanent or full-time basis. In “China’s Effort to Recruit Top Academic Talent Faces Hurdles,” we see that the Thousand Talents Program faces numerous challenges in achieving the goal of bringing the top scholars to China. Since the time requirement varies among programs, most returnees prefer to come on a “part-time” basis as they are “unwilling to leave tenured positions at major universities in the west” (Sharma, 2013).

Considering the analysis and by looking at who exactly is returning and for how long, we cannot say that the Thousand Talents Program shows effectiveness, although it does have visible effects. The program itself has the requirements necessary to be an effective project such as clear goals regarding number of scholars who return, matching the incentives desired by returnees, wide pool from which to select talented scholars, and overall attractiveness of the program. The weakness of the Thousand Talents Program lies not in the statistics but of the long-term results of the program. Due to the diversification of the program, the existence of short-term programs and part-time work may have an effect on the outcome. If scholars are not required to spend a good portion of their time doing research in China, it may not be as effective of a program. Also depending on the route that the returnee takes in the program, the incentives may not be as attractive. The difference between returnees who pursue the innovative or entrepreneurial route must also be explored. The evaluation of the Thousand Talents Program is that it is of limited effectiveness depending on the position acquired, duration of program, and field that the returnee is working in.

4.2 The Cheung Kong Scholar Program

The Cheung Kong Scholars Program (also called Changjiang Scholars Program) was initiated in 1998 by China's Ministry of Education. In regards to the scope of the program, according to the Cheung Kong Scholars Program's homepage, the program is geared towards accredited professors and chair professors to the Shanghai Jiao Tong University (SJTU). Both nationally accredited as well as internationally educated, ethnically Chinese and foreign professors are eligible to apply. The program requires accredited professors to currently hold a high-level assistant professor position or a position of similar caliber. Though the size of the program at the current stage is not readily available, it was measured that back in 1998 at the time of conception, the program drew in 800 scholars (Cao, 2008).

The program's duration depends on the specific research or project, but it requires that the accredited professor be capable of working full-time at the university for at least 9 months annually. The Accredited professor position has an upper age limit of 45 to 50, depending on the conditions under which the researcher is hired. For chair professors, the requirements are not as stringent. They are required to also hold a position as a high-level associate professor or above. Chair professors must be able to work at SJTU for at least 3 months annually, or 2 months in some special situations. The roles and duties for the

chosen professors are explained clearly on the homepage and not too complicated. The complex part of the program seemed to be the list of required paperwork and qualifications which includes certifications of previous works as well as plans for the next five years. The program overall is distinguished nationally and is considered in a high regard. Though there is a duration of stay that the chosen professors must fulfill at the university, there is no clear goal in terms of the long-term aspirations of the program. The clearest aspect is that this program seeks to make China's intellectual output on par with the internationally competitive countries. As it is outlined, the program does require the scholars to be quite innovative in their scientific research and discoveries during their time in the position. It is also clear that the objectives of the program include international competitiveness as well as innovation for the development of China.

In terms of the incentives to apply, the chosen accredited professors will be given a salary of 100,000 RMB annually from the Cheung Kong Scholars Program of the MOE, and be eligible for an additional supporting allowance of the same amount, from the university. The professors are also given salaries, insurance, medical treatment, and welfare. They receive a housing allowance and help in settling their spouses' employment as well as children's school or kindergarten entrance. Chair professors do not receive such extensive rewards,

as they are given 15,000 RMB per month only for actual work time spent at SJTU. Chair professors are also eligible to receive an additional 15,000 RMB per month by the university as well.

The goals set out for each group of selected professors are explained clearly on the homepage of the Cheung Kong Scholars Program. The accredited professors are to assist in “China’s significant strategic demand” and assist in “leading the edge of international science and technology.” They are also asked to conduct research projects while also making “great breakthroughs and remarkable achievements.” The expectations of the chair professors are also similar as they are expected to “lead the discipline to track the leading edge of international academics and also assist in the “internationally advanced science and technology” (Cheung Kong Scholars Homepage).

The Cheung Kong Scholars Program has a high expectation for its candidates in terms of work experience or education level, while providing two different levels of incentives depending on whether the position obtained is that of an Accredited professor or a Chair professor. Some of the factors that it lacks is an even level of desirability for both positions. Offering the same or similar incentives to both positions may provide the program with a wider range of applicants to choose from. The age limit is also limiting to the program’s effectiveness as well as the time requirements of the program. If the chosen

professor is not required to be at the institution for the majority of the year, it may not provide enough time to produce the intellectual output desired by the program. Overall the program should be more open towards candidates, with requirements for active participation of candidates once they are chosen.

When compared to the Thousand Talents Policy, the Cheung Kong Scholars Program has a more specified goal and purpose for selecting candidates. This is reflected in the requirements as well as expectations for the program. In terms of effectiveness, it is difficult to measure long-term effects of the program due to lack of data availability. Due to the limited duration that is required of professors who are chosen, the effectiveness in the long run is not easy to gauge. Even so, the program in its current state can be updated and specified to better fulfill the intellectual needs of the modern development.

4.3 China's Silicon Valley

The financial support for the development of a high-tech zone is one way that the Chinese government has been actively persuading overseas migrants to return. In the analysis thus far, policy-oriented programs have pertained to government policies which endorse general ideals or national goals with plans to apply nationally as well as provincially. The project-oriented programs have been more specific and catered to a specific field or type of

research such as science and technology or research in universities. The development of a high-tech zone in China will be analyzed with both frameworks because it is largescale policy in the sense that it is supported by the central government, but it is also specific when it comes to the types of companies or development that occurs in the area. The Chinese Silicon Valley is an effort that combines both policy-oriented objectives as well as specific goals to assist in economic development.

With a slogan that reads “A high profile and quality environment where your business can flourish,” China’s Silicon Valley flourishes as the high-tech capital of China (Zhongguancun Science Park homepage). China’s Silicon Valley, or Zhongguancun, is a technology center located in the Haidian District of Beijing. The idea first came from Chen Chunxian, who was a member of the Chinese Academy of Sciences (CAS). He felt the need for a high-tech city in China after visiting Silicon Valley in the U.S.

Weiss’s Framework will be applied to analyze the specific details about the tech-zone. Though Zhongguancun’s existence began in the 1950s, the city’s growth reached a peak in the 1980s with companies like Stone Group, Founder Group, and Lenovo Group began operating in Zhongguancun. By 2004, there were over 12,000 high-tech companies in the 7 parks located within the city

which employed 489,000 workers (China Statistical Yearbook). Today, the city hosts 10 science and innovation parks and boasts 10 overseas offices.

Gornitzka's Framework can be utilized to point to the motivation of the government to build the city. The policy problem that was addressed through the development of China's Silicon Valley was the lack of a technology hub in China and no major city in which companies could establish their bases. As more major companies began to develop and establish themselves, the area developed at the same time and brought with it more technology, development, and talented workers.

According to the homepage of the Zhongguancun, the future policy objectives include becoming “a pilot area of reform” or a park which promotes innovation and interaction among “industries, universities, research institutes and users of the products made in the park.” By becoming the impetus for globalization within technological developments of China, the park prioritizes development of each industry as well as becoming a platform for global competition. The normative basis of Zhongguancun comes from the history of its formation. With the State Council’s approval in 2009, the “Zhongguancun Electronics Street” of the 1980s was transformed into the Zhongguancun National Demonstration Zone with plans to turn it into an “S&T innovation center with a global influence.” The central government as well as the State

Council played a big role in the development of the first high-tech zone of China (eBeijing, 2013). From the strategic location in the major city of Beijing to the support and future plans, Zhongguancun became increasingly developed and gained global attention through the government's actions. The establishment and support for China's Silicon Valley can be linked to other policies that followed, such as the Provisions on Encouraging High-level Overseas Highly Skilled People Return to the Country and Establishing their own Business. The two policies can be linked to a growing desire by the central government to utilize talented human capital and growing mobility to increase knowledge exchange and speed up development within the national borders.

Zhongguancun stands as China's "most intensive scientific, education and talent resource base" and according to the Official Website of the Beijing Government, it is home to over 5,000 enterprises and over 15,000 Chinese returnees from overseas. Among these returnees there are presidents of Lenovo and Baidu, as well as Kai-Fu Lee, the former CEO of Google Greater China. The total count of companies is now 189 of which 113 are domestic and 76 are overseas companies. In terms of the city's goals for socioeconomic development innovation, Zhongguancun was able to make breakthroughs such as the super computer, and vaccinations against SARS or the bird flu. It was also beneficial to domestic construction projects such as the Three Gorges

Project and the construction of the Qing-hai-Tibet Highway. With a gross income of 1.59 trillion yuan in 2010, China's Silicon Valley contributed to 23.5 percent of Beijing's economic growth.

When looking at the figures, the government's efforts through establishing and supporting a high-tech zone in Beijing seems to be largely effective, but there are some points that we must also consider before reaching a decision on effectiveness. Although the effects of the high-tech zones, particularly the Beijing city of Zhongguancun, show impressive achievements on paper such as number of overseas companies and number of foreign employees, some doubts have been raised regarding whether the effects truly reflect what the central government set out to accomplish. Cao's 2004 study titled "Zhongguancun and China's High-Tech Parks in Transition: 'Growing Pains' or 'Premature Senility'?" points to factors that may have led to some ineffectiveness of the high-tech zone including a lack of institutional support for technological capabilities and innovation, unclear ownership, lack of venture capital, and the overwhelming role of the government.

One of the reasons that may have caused the high-tech towns to be ineffective is the unsuccessful cooperation between scientists and businesspeople (Cao, 2004). Although at the onset of globalization scientists were deemed most essential to innovation and growth, a shift occurred in recent

decades where foreign companies and entrepreneurs began to take the lead in economic development. Cao explains that there may have been a high turnover in the skilled worker rate in Zhongguancun because of “personal conflicts and performance issues.” The Chairman of the company Stone, Duan Yongji agreed with Cao’s position and explained that China lacks “products that are internationally competitive and technologies with high market dominance.” Essentially, many researchers, upon further examination, seemed to feel that Zhongguancun is not so much a high-tech zone, but more of a tech distributor, dispersing ideas that did not originate there, but elsewhere in the developed world. Due to the fact that S&T firms receive funding from state-owned institutions, it is difficult to tell who has the ownership over these companies. Because the central government is interested in conspicuous statistics such as the number of firms and values of exports, there is a lack of emphasis on success through indigenous innovation and technological development.

The points made above cast a shadow of doubt on whether or not we can deem the high-tech zone as successful. Although from the outside perspective, looking at factors such as the number of firms that reside inside or the value of exports as a proportion of national GDP, Zhongguancuan seems like a success story for developing countries to model their own high-tech zones, this may not be the case. Cong suggests that the evaluation should come

from looking at the outputs from indigenous technology or patents per capita instead. Although the growth in the productivity or number of companies have grown tremendously since its establishment, differences between the goals set out by the Beijing government and the analysis of real effects show that the Chinese Silicon Valley may not be the truly innovative tech hub that it was expected to become.

Through analyzing Zhongguancun utilizing the two analytical frameworks, effectiveness, in terms of policy evaluation does exist. Though the doubts raised by researchers cannot be ignored, the outcome that the tech town has seen so far and the rate of returnees who choose Beijing as their city of residence cannot be denied. In terms of the specific developments that occur in Zhongguancun, more analysis would be required in order to reach a conclusion on the effectiveness of those developments. In the aforementioned aspects of the two frameworks, the development of a high-tech zone within a bustling major city seems to have been an effective effort in terms of creating economic growth as well as attraction towards China.

Chapter 4 has analyzed two specific project-oriented programs, the Thousand Talents Policy as well as the Cheung Kong Scholars Program, with an additional analysis of a largescale national program with specific factors, the Zhongguancun high-tech zone located in Beijing. Through analyzing the main

criteria and incentives offered by the specific programs, there were clear distinctions in terms of the policy design, requirements, and effectiveness overall. The interesting takeaway from comparing the small-scale programs to a large-scale program like China's Silicon Valley was that the effectiveness should be viewed from many aspects of the policy. There is no statistical evidence that can provide evidence on effectiveness of the entire program. Due to recognition, opportunity for growth, and attractiveness for returnees, the high-tech zone would be evaluated as most effective in this study. It includes the aspects that returnees may seek such as opportunity for economic benefits, chance to develop research projects and utilize skills gained abroad, and a community to share the experience with. Unlike the specific government programs which seek out candidates to fill temporary or permanent positions, the high-tech zone does not limit returnees to a time-sensitive program.

Though the number of returning migrants through specific programs can be seen as a sign of success, it is important to seek out other measurements of effectiveness. In regards to the policy-oriented programs introduced by the central government, the clear objectives and specific goals must be emphasized to monitor effectiveness. The evaluation that "The Opinions" of 2017 were the most effective set of objectives thus far shows that the central government is moving towards effective planning and implementation. For the project-

oriented specific programs, both the Thousand Talents Policy as well as the Cheung Kong Scholars Program lack long term growth through the programs. The high-tech zone of Zhongguancun serves as an example of an effective government program that is widespread, long term, and developing with time. It includes both the aspects of economic growth and scientific discovery that continues to evolve in order to assist in the needs of the country.

5. Conclusion

The research has analyzed how the policies implemented by the Chinese government have had only limited success in encouraging return migrants. The national policies such as “The Provisions” and “The Opinions” should avoid being vague or general in their goals. In order to result in effectiveness, national policies must have clear goals with widespread influence on provincial policies.

Policies should also be available to a wide range of scholars, with a clear outline of what is expected of them. Increased engagement as well as length of time that is committed to the program are key factors of the program’s success. The representative high-tech zone of Beijing, Zhongguancun boasts impressive numbers of well-known enterprises and output, but as Zweig and Cao warn, there must be critical analysis of the quality and type of output and cooperation that goes on within the high-tech zones to verify that real innovation is taking place. The project-oriented schemes such as The Thousand Talents Policy and The Cheung Kong Scholar Program offer generous incentives for top scholars. The projects must focus on whether they are able to reach the top scholars of the field, with respect to their education or work experience, and whether their conditions in the program- the length of stay, activities required, or desired output are being met to provide the best result.

Though the figures and numbers may seem to display effectiveness of the programs in terms of the number of returnees recruited in a program or the number of enterprises in a high-tech zone, the analysis of desired effects that looks below the surface shows that the programs still have a long way to go. At the national level, policies are still restrictive in terms of the people who are eligible to apply, and what is required of them once they arrive.

The objectives of the central government, though they have gotten more detailed in recent years can be more effective if clear directions are given by the central government. There are many issues that arise with the national programs that must also be addressed. These problems include unfair treatment amongst returnees, lack of support for spouses and children, and a focus on output rather than process and the number of returnees rather than the qualifications and work quality of those who return. The study finds that while China's efforts towards encouraging return migration is evolving, it is ineffective in many aspects of its current state.

The current efforts by the Chinese government can be described as exclusive and experimental (Cao, Zweig, etc.). Although we cannot verify the completed effects of most of the programs that have been implemented because they are still ongoing, the thesis was an attempt to give context and evaluate the programs as they are today. As national programs and projects require financial

support as well as institutional change, it is pivotal that there exists an evaluation system to judge the effectiveness of a program. Though no policy can be seen as full-proof in attaining the best results, the current objective of inducing reverse brain drain should be observed more carefully to yield better results. I will conclude by agreeing with the CCG's statement that "compared to the schemes and mechanisms utilized by other countries to attract international talent, the steps taken in China so far can only (be seen) as preliminary" (CCG, 2017).

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