

Chinese Student Migrants in the Transition Period in the United States:
From Human Capital to Social and Cultural Capitals

by

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ABSTRACT

Since the 1990s, the United States has been increasingly hosting large numbers of foreign students in its higher education sector and continues to accommodate these skilled college graduates in its job market. When international students graduate, they can transition from an international student to a skilled migrant. Yet their decision-making process to stay in the receiving country (the United States), to return to sending countries, or to move on to another country, at different stages of such transition period, is not presently understood. This dissertation examines the experiences of these “migrants in the transition period” when they face the “to return or to stay” choices under structural and institutional forces from the sending and receiving countries. This research adopts the conceptual framework of human capital, social capital, and cultural capital, to investigate how social capital and cultural capital impact the economic outcomes of migrants’ human capital under different societal contexts, and how migrants in the transition period cope with such situations and develop their stay or return plans accordingly. It further analyzes their decision-making process for return during this transition period. The empirical study of this dissertation investigates contemporary Chinese student migrants and skilled migrants from People’s Republic of China to the United States, as well as Chinese returnees who returned to China after graduation with a US educational degree. Findings reveal the impact of social and cultural capitals in shaping career experiences of skilled Chinese migrants, and also explore their mobility and the decision-makings of such movement of talent.

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Chapter 1: Introduction

1.1. Global Race for Talent

This Ph.D. dissertation examines the contemporary Chinese international students and skilled migrants' career experiences and their return migration during the transition period in the United States. Contemporary economic globalization and technological advancement have significantly facilitated highly skilled individuals to travel across national boundaries. Today, international skilled migration is viewed as a flow of human capital and international students are seen as a potential source of human capital (Bhagwati and Hamada 1974). Many migrant-receiving countries in the developed world realized the impacts of the highly skilled professionals on their economic development and their global competitiveness (Wadhwa et al. 2009). In order to attract and retain highly skilled migrant workers to their domestic labor forces, many major migrant-receiving countries not only implement specific immigration policies for skilled migrants but also actively recruit international students in the higher education sector as a potential pool of skilled foreign labor (Alberts 2007; Rosen and Zweig 2005). Examples can be seen in the skill-based immigration programs of Australia (General Skilled Migration Program), Canada (Skilled Worker Class, R75), and the United States (EB1, EB2, and EB3 Class; Aure 2013; National Academies 2005) on Table 1.

Table 1. Highly Skilled Immigration and Migrant Receiving Policies in the United States, Canada, Australia, and France

	United States	Canada	Australia	France
Permanent immigration programs relevant for highly skilled workers	EB1 for migrants with “extraordinary ability”; EB2 for migrants with an advanced degree or its equivalent; EB3 for migrants with an bachelor degree or its equivalent	Federal Skilled Worker Program (R75) Provincial Nominee Program (R87)	General Skilled Migration Program (GSM) Employer Nomination Scheme Regional Skilled Migration Scheme	<i>Carte de Resident</i> (Permanent Residence), 10 years, renewable
	Main temporary migration programs relevant for highly skilled workers	H-1B visa (specialty occupation workers with bachelor degree or higher, or the equivalent), 6 years maximum. TN visa (NAFTA) J1 visa (exchange visitors), 6 years maximum, 2 years home-country physical presence required at the end of the program L1 (intracompany transferees), 7 years maximum	Temporary Foreign Worker Program (R200) TN visa (NAFTA)	<i>Carte de Séjour Temporaire</i> ‘ <i>mention scientifique</i> ’ (temporary ‘scientific activity’ residence permit), 4 years maximum “Compétences et Talents” Card (3 years renewable) EU Blue Card, 3 years maximum, salary must be at least 1.5 times the French average
Quota	Yes for H-1B (85,000), EB1 (40,000), EB2 (40,000), and EB3 (40,000). No quota for TN, J1 or L1 visa.	No	Yes for GSM, no quota for 457 visa.	No

Source: Chaloff and Lemaitre, 2009.

Large emigration of skilled migrants causes many sending countries face the loss of talent population and hampers their development process. Figure 1 shows the examples in China, India, and Philippines and among other countries in the developing world (Commander et al. 2003; Wyss 2004). Thus, many developing countries especially the ones experiencing economic transition, tend to attract the global talent back home to contribute to their countries' development (de Haas 2010). Governmental incentives are implemented such as providing favorable policies for highly skilled returnees and establishing diaspora ties with their expatriates. For example, the Indian government has been actively pursuing diaspora ties with highly skilled Indian expatriates. Important initiatives include the Indian Development Foundation (IDF), the Global Indian Network for Knowledge (Global-INK), and the Overseas Citizenship of India (OCI) Schemes. The Chinese government, in particular, has implemented multiple programs to recruit internationally reputable overseas scholars and professionals to return to China, such as the central government's Thousand Talent Plan and the Yangze Scholars Program (see Table 2). Numerous regional policy initiatives, mostly from coastal provinces, are also similarly designed to attract skilled entrepreneurs to return and open transnational businesses. Examples include the tax policies at Zhejiang Overseas High-level Talent Innovation Park and personal incentive packages at Tianjin, Zhejiang, and Jiangsu Provinces.

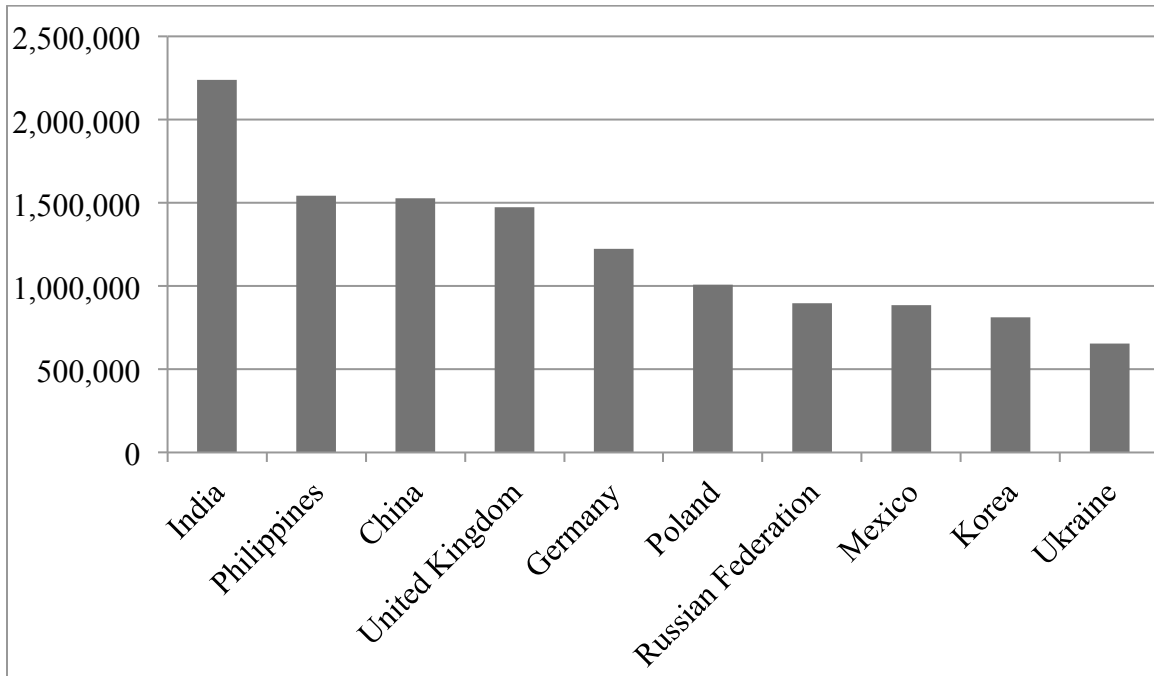


Figure 1. Top 10 Sending Countries of Skilled Migrants to OECD Countries, 2010.
Source: Chaloff and Lemaitre 2009.

Table 2. National-level Incentive Programs for Skilled Returnees in China

Year	Program Name	Benefit	Qualification	Form of Participation	Sponsor
1991-2014	Project Sponsored by the Scientific Research Foundation for the Returned Overseas Chinese Scholars	Start-up research funds, amount based on specific fields	Under 45 years old; Doctoral degree holder with at least one year overseas education experience	Long-term return	Ministry of Education
1994	Hundred Talents Program	RMB ¥2,000,000 research funds; ¥600,000 housing allowance	Under 40 years old; More than 4 years of overseas research experience after obtaining doctorate degree; Assistant professor rank or higher in an overseas university	Long-term return	Chinese Academy of Science
1996	Chunhui Program	Airfare and international travel expense	Overseas doctoral degree holders with outstanding achievements in their respective fields	Short-term training or exchange; joint research	Ministry of Education
1998	Changjiang Scholars Programme	RMB ¥ 200,000 annual bonus for specially invited professor (5-year contract); RMB ¥30,000 monthly bonus for seminar professor (3-year contract)	Specially invited professor: under 45 years old for science and engineering fields, under 55 years old for social science fields; doctoral degree holder; associate professor rank or above; leading scholars of certain disciplines. Seminar professor: full professor rank or equivalent.	Specially invited professor: Long-term or short-term (must full-time after one year upon return). Seminar professor: short-term exchange (at least 2 months on campus each year)	Ministry of Education
2008	Recruitment Program of Global Experts	RMB one million; must match or exceed what returnees had in previous institution; "Legal Permanent Residency" for spouse and family members or Hukou Status of any city for family if permanently return.	Under 55 years old; Full professor rank or equivalent for academic applicants; Senior scientist or management position for private sector applicants; Holding registered patent for entrepreneur applicants	Long-term return (at least 9 months on position each year)	Organizational Department of the Chinese Communist Party
2010	Recruitment for Global Youth Experts	RMB ¥ 500,000 bonus; RMB ¥ 1,000,000-3,000,000 research funding in 3 years; providing "Legal Permanent Residency" for spouse and family members or providing Hukou Status for any city if family choose to permanent return.	Under 40 years old; holding a doctoral degree with more than 3 years overseas research experience	Long-term return	Organizational Department of the Chinese Communist Party

Source: Chinese Ministry of Education, MOE.

1.2. Transition Period for Student Migrants

When international students finish their programs of study and obtain their academic degrees from universities in the receiving countries, their immigration statuses change from student migrants to skilled migrants. They simultaneously need to negotiate their return during a certain period of time in response to the immigration policies of the country they stay at, as well as to the ones in their home countries should they decide to return. Such return migration sometimes is different from their return intentions while during their programs of study. For example, in the case of the United States, the United States Citizenship and Immigration Services (USCIS) only issues 85,000 temporary work visas (H-1B visas) each year to skilled migrants who are qualified to work in US private industries. In the year 2015, USCIS received nearly 233,000 petitions for H-1B visas and resumed the Random Selection Process, known as the H-1B lottery, which prevented almost two-thirds of skilled migrant applicants from legally working in the United States. Moreover, the United Kingdom has also witnessed an increasing trend of international students who plan to extend their visas after completing their programs of study (from 25% in 2000 to 50% in 2005 of all international students in the United Kingdom; United Kingdom Home Office 2006). Yet only a small proportion of these students are able to stay in the United Kingdom after five years due to the United Kingdom's restrictive policies for skilled immigration (Findlay 2011).

From international students to skilled migrants, international students usually experience a transition period instead of immediately changing their roles. The concept of transition period is widely used among scholarly work on asylum seekers who share a similar transition experience with the skilled migrants— they both change from a legal

status without authorization to work as legal labor (im)migrants (Alt and Cyrus 2002).

The transition period of international students to skilled migrants varies in the contexts of different migrant-receiving countries. Among popular migrant receiving countries, skilled migrants' transition period sometimes can be 12 months long (in the cases of Canada and the United States) and involves multiple stages, ranging from migrants still enrolled in the last year of their programs of study, to their job-searching period, to becoming part of the highly skilled labor force. In the case of the United States, I define the transition period with three stages based on migrant legal status, as legal status is a key factor defining migrants' length of legal stay and right to work, as well as influencing migrants' decisions regarding return migration (see Figure 2). The first stage starts with international students approaching graduation in the receiving country. At this time, international students still hold student visas (usually in the form of F1 visas), which prevent them from working off campus during school years. The curricular practical training (CPT) program is the major program that offers them opportunities to interact with the job market in the form of internships with 20 hours per week during fall and spring semesters and 40 hours per week during the summer semester.

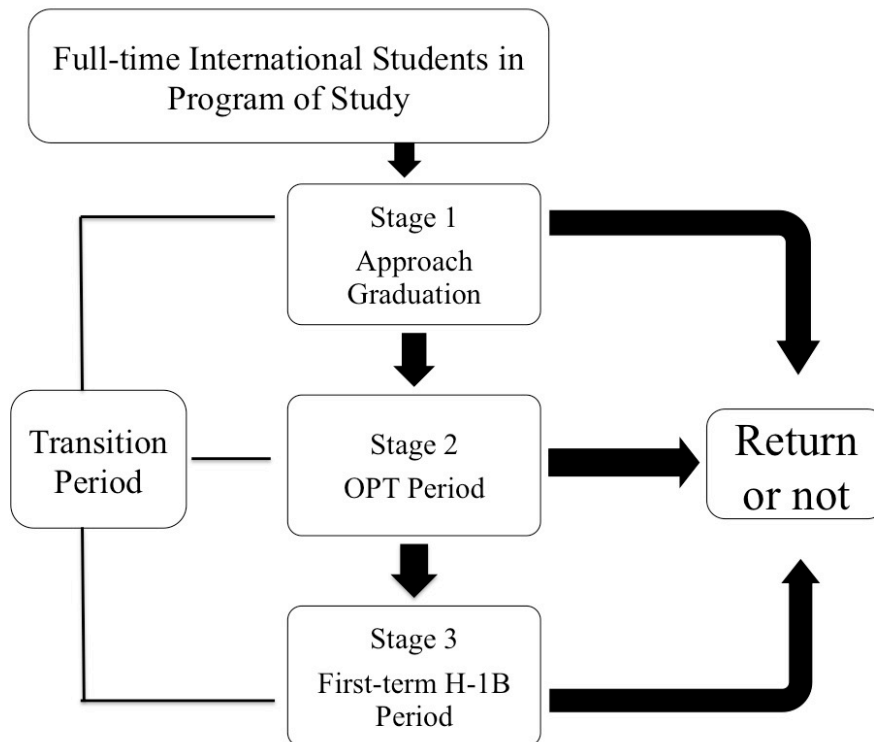


Figure 2. The Transition Period of International Students in the United States

When international students finish their programs of study, they can choose to transition to the optional practical training (OPT) program. In the OPT period, students are only eligible to work at positions specifically related to their programs of study and for employers enrolled in the E-Verify system. Moreover, the OPT program specifies that students who leave the United States without any official employment contract from qualified US employers are not guaranteed reentry. Such OPT policies severely discourage migrants' transnational movements. Within the OPT period, students need to find qualified employers willing to pay extra fees to sponsor their H-1B visa applications (US temporary work visas for specialty occupations) compared to hiring a domestic employee. In addition, since 2013, due to the outnumbered graduates applying for H-1B work visas during their OPT period (124,000 in 2013; 172,000 in 2014; 232,000 in 2015) compared with the annual quotas US government issued (85,000 in private industries),

the H-1B visa lottery policy was implemented by USCIS to randomly select qualified skilled migrants in the United States. Skilled migrants who work for not-for-profit institutions or entities and research organizations related to not-for-profit institutions in higher education sector can be exempted from the quota limit.

After successfully securing an H-1B visa sponsor and winning the H-1B lottery, OPT students become part of the skilled foreign-born workforce and reach the last stage of the transition period. Each H-1B visa term lasts for three years, and skilled migrants can extend their H-1B visas for up to a total of two terms. Thus, H-1B visa holders have six years to find a satisfying position and employer to file for legal permanent residency. The first-term H-1B visa period is the last stage of the transition period for skilled migrants in the United States because many migrants start to apply for legal permanent residency in their following years of H-1B period.

1.3. Significance and Broader Impacts

The transition period of international students in the United States is imperative for migration studies, not only because migrants begin to change their roles from full-time enrolled students to skilled migrants but also because their migration movements are largely impacted by the institutional factors in both receiving countries and their home countries. Even holding academic degrees and professional skills, skilled migrants during transition period can hardly be viewed as footloose migrants but instead a specific vulnerable group to institutional factors. By using the experience of Chinese international students in the United States during the transition period as a case study, this dissertation project reveals the skilled yet vulnerable migrant group's experiences between the largest

skilled migrant receiving country and one of the largest skilled migrant sending countries. Particularly it can provide broader impacts by relating the transition period of other classes of migrants and comparing the migration pattern similarities/differences among migrants with different levels of educational attainment, namely human capital levels. The impacts of three-stage transition period differ: some apply to all international students, whereas others apply only to students from certain sending countries. This dissertation aims at providing policy implications to other major skilled migrants sending countries (the ones on Figure 1) and sending countries (the ones on Table 2) on how to retain or recruit global talent to augment their human capital accumulation.

On the geographical perspective, this dissertation is geographical at different levels: at transnational level, it compares skilled migrant “temporary stayers” vs. “returnees”; at national level, it analyzes the structural and institutional factors hampering skilled migrants joining the labor forces in the receiving or home country; at regional level, it also reveals the location choice of skilled migrants in a given country. Moreover, this dissertation links space and time by examining the aforementioned geographical levels across different stages of migration experiences: ranging from migrants still studying in their program of study (F-1 visa), to the grace period for job seeking (OPT program), and to fully transitioning to skilled migrants workers (H-1B visa).

1.4. Theoretical Foundation

International students have long been viewed as a potential source of skilled migrants, and scholarly attention to migration for higher education mainly derives from the discussion on highly skilled migrants (Aure 2013; Dustmann et al. 2011; Waters and

Leung 2013). In the fields of migration studies and geography, extensive research has focused on the global economic and geopolitical contexts, the demographic characteristics, and the return intentions of student migrants (Alberts and Hazen 2005; King and Raghuram 2013; Wadhwa et al. 2009). At the global level, the uneven impacts of the internationalization of higher education and the global hierarchy of universities largely shape the stock and flows of international student migration (Findlay 2011). Moreover, major international events, geopolitical relations, and sending countries' development trajectories also influence international student migration flows, not only in terms of their destination countries (Alberts 2007; Murphy-Lejeune 2002), but also with regard to their return migrations (Li and Yu 2012; Rosen and Zweig 2005). At the nation-state level, major immigrant-receiving countries such as Canada, Australia, and New Zealand consider international students as a major source of tuition contributions to the higher education sector and as a relatively "temporary and invisible" migrant group due to their limited length of legal stay according to their visa programs (Findlay 2011, 165; Lu, Zong and Schissel 2009; Naidoo 2007; Ziguras and Law 2006). However, due to student migrants' human capital level and assimilation into the receiving societies, retaining them after graduation has increasingly come to serve the political needs of developed countries seeking to attract a global skilled labor force for economic development (Williams 2006). Jasso et al. (2000) and Raghuram (2013) have also argued that the marketization of education enables higher educational institutions to become knowledge brokers that not only selectively recruit international students according to their language and country of origin but also augment migrants' human capital to fulfill the "demand-side" expectations of the receiving countries' job markets. At the individual

level, migrants' gender, family and social connections, and social classes are also prominent factors in determining their migration routes (King and Raghuram 2013; Mahler and Pessar 2001). Specifically, revealing the gender imbalance among Asian and Middle Eastern international students in the UK, Findlay (2011) argues that contemporary international student mobility is gender structured, not only mirroring the embedded gendered biases in some students' countries of origin regarding who can obtain overseas education, but also reflecting gender-specific views of family responsibility and work-life balance and their impact on students' location choices following graduation (Acker 2004; Geddie 2013). Furthermore, many geographers also examine the spatial implications of skilled migrants in popular migrant-receiving countries, such as ethnoburbs (Li 2009) and technoburbs (Li and Park 2006) at community level, gendered and family-based internal location choices at individual level (Geddie 2013; Yu 2014). Different from scholars from other disciplines, geographers also pay special attention on the space and place involved in skilled migration, such as King's (2012) work on integrating the international and internal migration of student migration, Raghuram's (2013) study on the importance of geography and space in studying migration for higher education, and Waters's (2006) research on emphasizing the impact of returnees' previous transnational experiences in their career experiences in home countries when return.

When international students graduate from their programs of study, they can choose to stay in the receiving countries as skilled migrants or to return to their home countries. Particularly regarding the transition period, abundant previous research has been focused on asylum seekers' transition period which signifies their paths of changing

legal status toward migrant workers as well as their entry to the receiving countries' job market (Alt and Cyrus 2002). Specifically for skilled migrants, many social science studies characterize their transition period as a status passage through which migrants transition their educational knowledge to professional skills. Such status passage process can be highly connected to migrants' personal characteristics such as their social integration and cultural competence in the receiving countries, as well as the institutional conditions and the "entire environmental milieu" in the receiving countries (Heinz 1991; Nohl et al. 2006, 8).

1.4.1. Human Capital, Social Capital and Cultural Capital

Numerous studies have examined the career experiences of skilled migrants in the receiving countries as well as in their home countries' job markets, yet most have focused on migrants' human capital and its implications for their mobility (Bhagwati and Hamada 1974; Blaz and Williams 2004; Dustmann 1994; Wooden 1994; Saxenian 2005; Vertovec 2002). The assessment of an individual's human capital can be prominently based on his/her educational attainments, yet researchers often argue that the economic value of human capital is socially and culturally constructed (Bankston 2004; Bourdieu 1986). Bourdieu (1986) defines such socially and culturally constructed individual characteristics as social capital and cultural capital. Specifically, *social capital* refers to "the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships" (Bourdieu 1986, 248), and *cultural capital* refers to "the level or qualification of individuals' cultural competence" (Bourdieu 1986, 246). The concepts of *social capital* and *cultural capital*

thus explain the differences between common assessments of human capital based on an individual's educational attainment and the socially and culturally constructed economic outcomes of his/her human capital. Despite the fact that international students possess the same educational attainment as their native-born counterparts, disparities in social and cultural capital often place them in a disadvantaged position in the job market and prevent them from obtaining desired jobs commensurate with their level of human capital in the receiving countries (She and Wotherspoon 2013). Their obstacles in receiving-country job markets are usually in the forms of *the lack of social and professional networks, unsecured legal status, the ethnic and racial [in]equality in workplace and job market, and the cultural barriers*, all of which are tightly related to the social, economic, and political contexts of the receiving countries and beyond the scope of their professional skills (Bauder and Cameron 2002; Gatchair 2013; Putnam 2007; Ryan et al. 2008). In response to such constraints on their career development in receiving countries, skilled migrants gradually develop strategies such as establishing co-ethnic networks, exploring transnational connections, and considering return migration (Dustmann and Weiss 2007; Jasso and Rosenzweig 1988; Yeoh and Willis 2005; Zweig and Han 2008). Moreover, because migrants' social and cultural capital is contingent on specific national contexts, their career experiences in their home-country job markets often vary from their experiences in receiving countries. In many African and Asian countries, skilled returnees' overseas higher educational degrees—especially those from “world-class” universities (Findlay et al. 2011)—often provide them with advantageous cultural capital that greatly eases their job-seeking experiences in the job market (Findlay 2011; Waters 2006). Thus, by comparing the economic outcomes of their human capital in both

migrant-sending and receiving countries, skilled migrants take into account their career experiences when making return migration decisions.

1.4.2. Return Migration

As skilled migrants are an important source of the overall human capital accumulation of a country, their movements and settlements have great impacts on a country's development (Kuznetsov 2006; Yeoh and Eng 2008). Studies on the out- or return migration of highly skilled migrants often involve discussions of concepts such as "brain drain," "brain gain," "brain circulation," and debates on the transnationalism framework (Blitz 2005; Johnson and Regets 1998; Saxenian 2005). They also vary by different perspectives on key factors shaping migrants' decision-making processes. The push-and-pull model from neoclassical economic theory explains the mechanisms of the decision-making process of skilled migrants considering return migration under global political economic forces. Specifically, push factors include the obstacles skilled migrants experience in the job market and the restriction of working permits available from the receiving countries, whereas pull factors consist of migrant family ties and more economic opportunities in the home countries (Altbach 2004; Lowell 2001; Wadhwa et al. 2009). New Economics of Labor Migration also argues that migrants' family and social connections, as well as their gender and partnering relationships, are tightly involved in their return migration decision-making process (Geddie 2013; King and Raghuram 2013; Raghuram 2013). Recent studies from transnationalism argue that international students continue a transnational lifestyle after they finish their overseas

studies and contribute to shaping the “transnational social space” of global elites (Gargano 2009; Waters 2005; Yeoh et al. 2005).

It should also be noted that migrants’ return intentions and return-migration behaviors are often incongruous (Goldsmith and Beegle 1962). Previous research indicates that migration intention can be considered as a strong determinant of migration actions (Ajzen and Fishbein 1980) and is often a result of migrants’ lack of assimilation in receiving countries, their familial and social connections with their home countries, and their home countries’ policy incentives (Fawcett 1985; Simmons 1985; Tannenbaum 2007). Yet, other studies argue that migrants can make the decision to stay in the receiving countries while still longing to return to their home countries (Moran-Taylor and Menjivar 2005), or holding uncertain intentions as their return migrations are subjected to the social and cultural contexts of both the sending and receiving countries (Senyurekli and Menjivar 2012). Particularly for highly skilled migrants, their intentions to return can also be a result of their expectations of life in their home countries compared with their existing lives in the receiving countries (Gmelch 1980), or even related to their out-migration intentions (Güngör and Tansel 2008). Thus, the decision-making process of highly skilled migrants’ regarding return migration is a dynamic and systematic process that not only involves migrants’ individual and family career plans but also the social, economic, and political contexts.

1.4.3. Highly Skilled Migration: From Students to Professionals

Previous literature on student migrants and highly skilled migrants has tended to examine these two tightly related skilled migrant groups with different lenses and rarely

connected them. On one hand, research on student migrants mainly focuses on their plans and intentions to return before they have the chance to become familiar with the job markets in both sending and receiving countries (Hazen and Alberts 2006; Li et al. 1996). On the other hand, literature on highly skilled return migrations overwhelmingly looks at return plans among skilled migrant workers in receiving countries or the return behaviors among skilled returnees without considering them as part of a strategic return migration decision-making process (Duncan and Waldorf 2010; Hall and Khan 2008; Johnson and Regets 1998).

In fact, the two migrant populations can be viewed as migrants at different stages, as many skilled migrants arrive in the receiving countries as international students. It is thus noteworthy to examine the overlooked yet key linkage between the two migrant groups: the transition period of skilled migrants. During this period, skilled migrants' roles gradually change from being international students to becoming part of the highly skilled global labor force. Migrants during this period also directly face "to stay or to return" decisions due to the legal limitations on the duration of their stay (12 months in Canada, the United Kingdom, and the United States) and restrictive requirements for legally working and staying in the receiving countries. Their location choices and migration movements are largely determined beyond their own career development, constrained by contextual forces such as immigration policies in the receiving countries (such as annual H-1B visa caps and qualifications in the United States and the UK points system), global social and economic contexts (such as different global economic cycles), and their home countries' development and policy initiatives. Nevertheless, the migration movements of skilled migrants during the transition period—though it importantly links

the experiences of international students and highly skilled migrants—has not been adequately examined (exceptions include Nohl and Schittenhelm 2014; Robertson and Runganaikaloo 2013).

1.5. Objectives

This dissertation thus aims to explore the career experiences and return decision-making process of migrants at different stages in the transition period from international students to skilled migrants. It also pays special attention to migrants in the United States transitioning from international students to early-stage skilled migrants. Its empirical study examines contemporary Chinese students and highly skilled migrants in the United States. Specifically, it follows the following research objectives:

- 1) To analyze current migration flows of international students and skilled migrants between China and the United States and the major factors shaping Chinese international students' return plans during their programs of study.
- 2) To examine Chinese skilled migrants' accumulation of their human capital, social capital and cultural capital at each stage during the transition period (from full-time F1 students, to OPT holders, to first-term H-1B visa holders), and the impacts of social capital and cultural capital, as outcomes of socially and culturally constructed factors, on their migration movements and location choices geographically.
- 3) To investigate migrants' decision-making processes (return intentions, return plans, and return behaviors) at different stages during the transition

period and how their return intention direct (or not direct) their return migration behaviors.

This dissertation provides an case study of analyzing skilled migration from conceptual frameworks at three different geographical levels: return migration of the highly skilled in the form of brain drain, brain gain, or brain circulation at the macro level (Chapter 2); the impact of contextual and institutional factors on migrant individual's social and cultural capitals and their consequent migration movements and location choices at the meso level (Chapter 3); and the dynamics of migrants' return intentions, return plans, and return behaviors at the micro level (Chapter 4). Moreover, it also provides an example of contemporary knowledge migration between a fast-growing economy in the Global South and traditional migrant-receiving countries in the Global North. Its findings shed light on existing scholarly debates and public discussions about international competition for global talent and human capital accumulation, and also illuminate policy implications to understand the obstacles, the mentalities, and the migration experiences of this potential highly skilled labor force to achieve the United Nation's triple-win situation for international migration (United Nations 2006).

1.6. Methods

This dissertation examines Chinese migrant experiences between the United States and China as a case study. The United States has long been a prime example of a popular migrant-receiving country. The US government has also been actively promoting its higher education sector in the global market for overseas studies and implementing policies to retain highly skilled migrants into its labor force. Such policy effort is evident

from the H-1B visa (temporary work visa) program under the Immigration and Nationality Act of 1990 and employment-based immigration categories for highly skilled professionals. Moreover, this dissertation focuses on the experience of Chinese migrants because of their current large presence on US campuses and in the US job market, mirroring the increase in Chinese international students and H-1B visa holders in the past 17 years (Figure 3). Specifically, China is the leading origin country of international students on US campuses, accounting for 304,040, or 31.2 percent, of all international students in the United States (IIE, 2015). It also provides one of the largest skilled migrant groups to the United States. Significantly, China is also an example of the fast-growing economies in the Global South that generate increasing return-migration flows of highly skilled professionals back home (Figure 4).

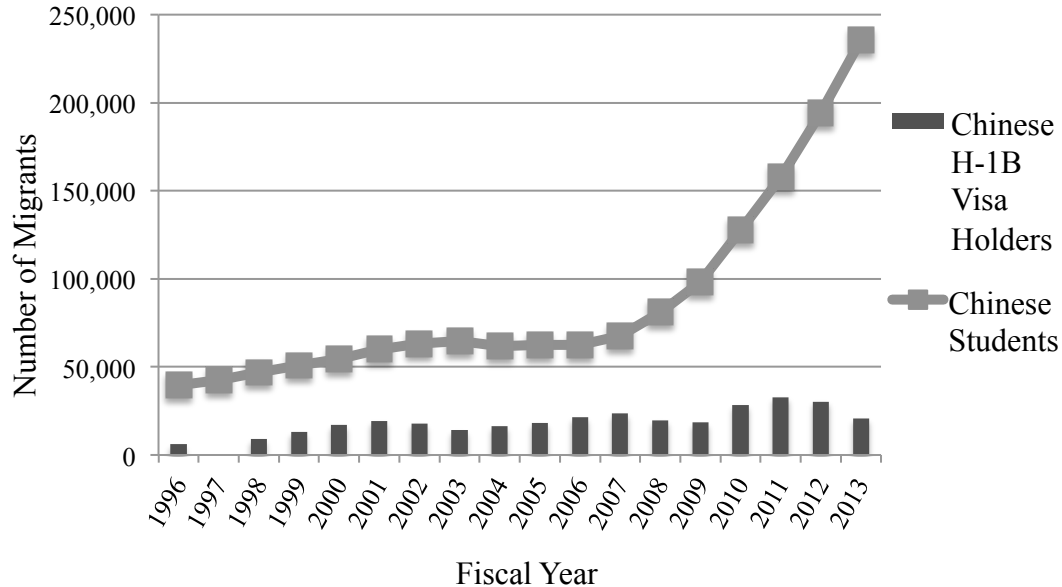


Figure 3. Number of Chinese International Students and H-1B Visa Holders in the United States, 1996-2013.

Note: Data missing for Chinese H-1B visa holders in 1997.

Source: Institute of International Education (IIE) 1996-2013. Department of Homeland Security 1996-2013.

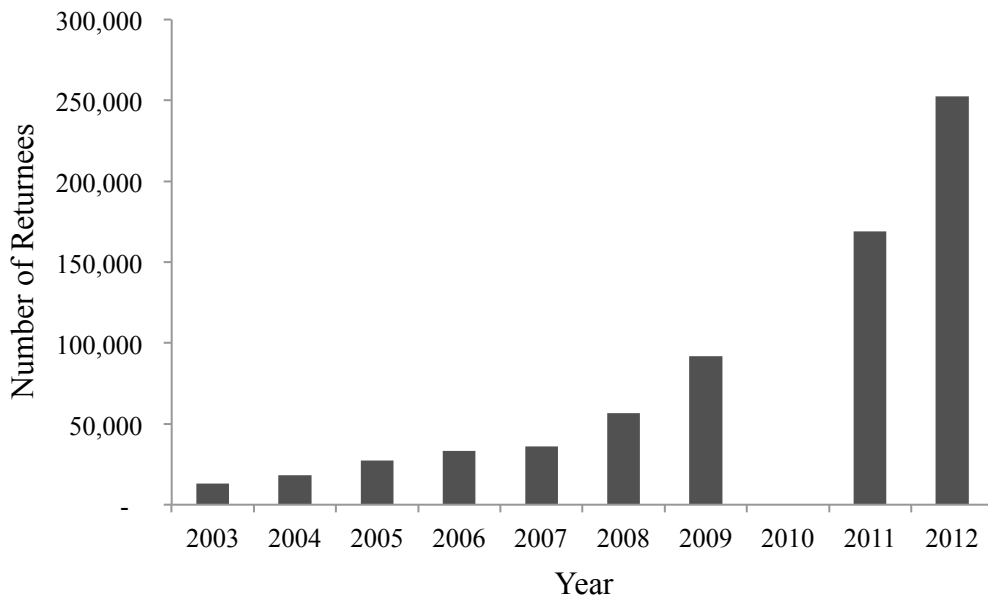


Figure 4. Number of Returnees Received in China, 2003-2012.

Note: No data for 2010 in original publication.

Source: Wang and Miao 2013.

Particularly, cross-sectional data of Chinese migrants at multiple migration stages were collected in 2014 (Human Subjects Institutional Review Board review approval documents see Appendix A). “Chinese migrants” in this dissertation refer to migrants who came from mainland China, excluding those from Hong Kong, Macau, and Taiwan, because they are categorized in different regions of origin in various US governmental datasets. In this dissertation project, participants were also selected from part of the skilled Chinese migrant population— Chinese migrants who are studying at the graduate level or who have obtained postgraduate degrees in the United States. This specific focus on the graduate level is warranted because many Chinese undergraduate students in US universities choose to continue their graduate studies instead of entering the US labor force upon graduation, and also because postgraduate students more commonly make their life decisions independently.

This dissertation adopts qualitative data in the form of in-depth interviews to answer all research questions, while using quantitative data from publically available statistics (such as decennial censuses, American Community Surveys, and the Open Doors Report) to reveal the current demographic profiles of Chinese students and highly skilled migrants in the United States. Specifically, Chinese migrants at four stages of migration constitute the potential interviewee population: full-time Chinese graduate students holding F1 visas (excluding J1 visa holders due to the different requirements of the migration programs after graduation); Chinese graduate students who have graduated from their programs of study and are currently enrolled in the OPT program; early-stage Chinese H-1B visa holders who are currently in the first-term of the H-1B visa program; and highly skilled returnees who obtained their postgraduate degrees in the United States and returned to China without obtaining Legal Permanent Resident (LPR). All interviews were conducted in Mandarin Chinese (interviewees' first language), digitally recorded with the interviewees' consent, and translated into English in the analysis process. Interview themes include interviewees' migration experiences at school in the United States; their career experiences in the job markets in the United States and in China, especially in terms of the social and cultural contexts that shape their career experiences; their human capital, social capital, and cultural capital accumulation; and their return intentions, return plans, and return behaviors at different migration stages. The interview data are separately used in different chapters according to the specific migration stages of the interviewees, see Table 3.

Table 3. Demographic Information of Interviewee Groups by Chapters

	Chapters	Interviewees	Total	Gender		Major				
				Female	Male	Arts/ Humanities	Science	Social Science	Engineering	Business/ Management
Chinese Migrants in the United States	2	F1 Students In Program of Study	11	5	6	1	4	1	3	2
	3	F1 Students Approach Graduation	7	4	3	1	2	1	2	1
		F1 Students During OPT Period	6	3	3	0	2	0	2	2
		First-term H-1B Visa Holders	6	2	4	1	1	1	3	0
Chinese Highly Skilled Returnees	2	Returned upon Graduation	5	2	3	0	2	1	1	1
		Returned During OPT Period	7	3	4	1	3	0	2	1
	Returned During First-term H-1B Period	5	1	4	0	2	1	2	0	
Total			47	20	27	4	16	5	15	7

1.5. Organization of Dissertation

With the purpose to analyze the migration experiences of Chinese international students and early-stage skilled migrants in the United States, this dissertation is structured as shown in Figure 5. Chapter 2 investigates contemporary Chinese student migration to the United States for higher education as well as the return migration of the highly skilled from the United States back to China. It tests the existence of a brain circulation between China and the United States and argues that an emerging circular migration flow could generate a future win-win situation between migrant home country and receiving country in the future, as student migrants benefit the receiving country's economy via their tuition payments and living expenses during their stay and contribute to their home country with their professional skills after their return.

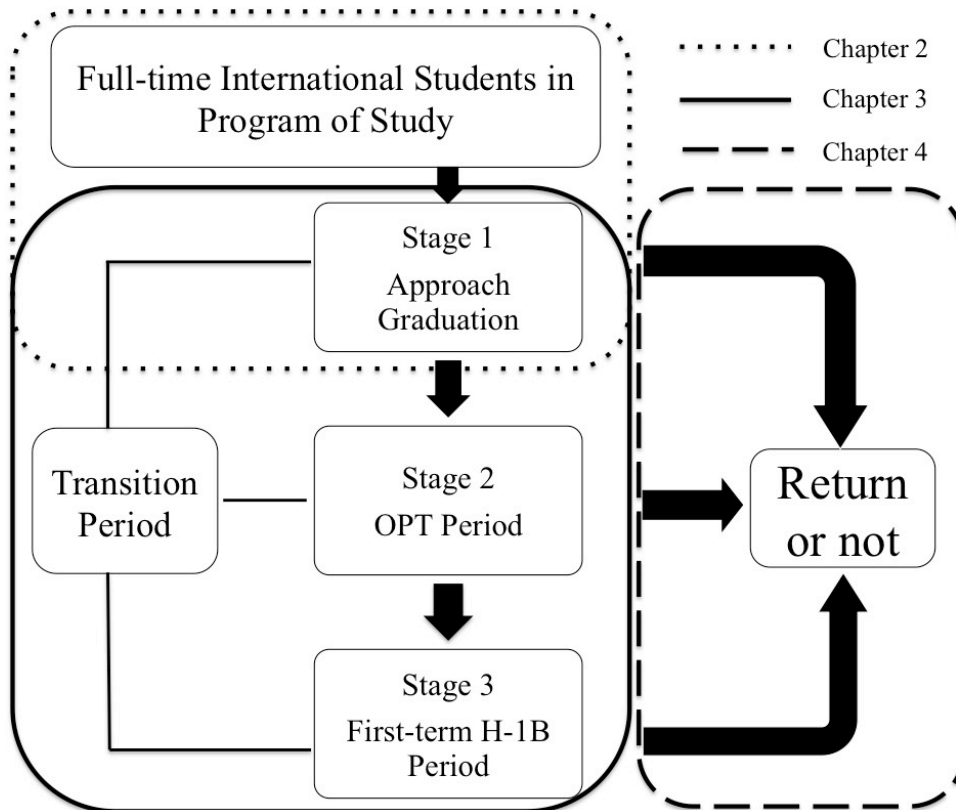


Figure 5. Organization of Dissertation

Chapter 3 explores how migrants' social and cultural capitals, as a result of institutional and contextual factors, influence their career experiences at different stages of the transition period and how migrants accumulate their human capital, social capital, and cultural capital differently in response to the advantages and obstacles they face in the job market. It also reveals the influence of social and cultural capitals in determining their migration movements and location choices.

Chapter 4 examines the return migration decision-making process among migrants in the transition period. It specifically reveals migrants' shifting return intentions, return-migration plans, and return-migration behaviors at different stages of the transition period and distinguishes the underlying factors that shape migrants' return intentions and return-migration behaviors.

Finally, Chapter 5 concludes this dissertation by summarizing the research findings and policy implications and reviewing its contributions to existing literature and public debates on human capital and the global competition for talent. Directions for future research are also discussed.

Chapter 2: The Emerging Brain Circulation Between China and The United States¹

It has been widely acknowledged that a country's development greatly depends on its human capital accumulation, including highly skilled intellectuals. The spatial mobility of the highly skilled has accelerated in the context of globalization and has received increasing scholarly and public attention over the past several decades. Concepts such as “brain drain,” “brain gain,” and the recently “brain circulation” have emerged to describe the impact of the migration movements of highly skilled migrants (Adams 1968; Baghwati and Partington 1976; Breinbauer 2007; Johnson and Regets 1998). Research on this topic also includes discussions on student migrants, especially students studying in the higher educational sector, who are commonly considered as potential permanent immigrants (Tremblay 2005).

Nowadays, China is the top sending country of student migrants to many universities in developed countries. According to *Open Doors Report*, China is the top sending country of foreign students to the United States (Institute of International Education, IIE 2014). The composition of Chinese students in the United States has changed over time, shifting from overwhelmingly at graduate level to equal numbers of graduate and undergraduate students (IIE 2014). Meanwhile, contemporary highly skilled migrants in the United States hold strong longing to return to China (Zweig et al. 2008); indeed, the United States is the second largest sending country of highly skilled Chinese

¹ This chapter is slightly modified from a published book chapter: Wan Yu, 2013. “The Emerging Brain Circulation Between China and the United States”, in *Coming from Abroad: International Students and Faculty in the United States*, edited by Heike Alberts and Helen Hazen. pp.47-64. New York: Palgrave Macmillan.

returnees, with 16.7 percent of Chinese returnees in China in the year of 2012 from the United States (Wang and Miao 2013).

The increasing circulation of international students between the United States and China has drawn not only academic but public attention as well. In the United States, international students have long been recognized for contributing to the development of the higher education sector and generating tuition revenue. At the same time, potential negative consequences are also hotly debated with public concerns, especially when international student population has skyrocketed while the US economy is experiencing a recent downturn. Of particular relevance in the United States, is whether students returning to their home countries from the United States are a human capital loss, or even a waste of taxpayer's money. China, for its part, concerns the unprecedented increase in the outmigration of high school and college graduates as well as how to retain the ever-growing top-tier highly skilled Chinese returnees from the developed world to stay permanently in China. The Chinese government has drawn attention to adjusting the domestic job market to accommodate this large influx of highly skilled returnees and on how to evaluate their impacts on China's future. In summary, the consequences of student migration and highly skilled migration on China and the US are not clear, as the growing return migration flow has increasingly complicated the picture.

Under the conceptual framework of international migration of the highly skilled with special attention to the concept of "brain circulation," this chapter argues that the increasingly two-way migration flows of skilled migrants can suggest a future win-win situation between migrant-sending and receiving countries. In this situation student migrants benefit not only the receiving country's economy via their tuition payments and

living expenses during their study period in addition to the international experience they can bring to the American classroom, they can contribute to their countries of origin with their professional skills after their return as well. Yet, current volume of return migration from the United States to China have yet to constitute a brain circulation in full scale.

2.1. Conceptual Framework

Scholarly attentions on migration for higher education derive from theoretical debates on highly skilled migration, which assume that well-educated and highly skilled intellectuals are crucial for a country's global competitiveness in economic, social, and political arenas (Daugeliene 2009; Kuznetsov 2006). Public concerns regarding highly skilled migrants began in the early 1960s when European scholars expressed their concerns about the mass migration of scholars from Europe to the United States. Since then, theoretical debates on highly skilled migrants have shifted among different terms which emerged in different periods, including "brain drain" since the 1960s, "brain overflow" since the 1970s, "brain gain" since the 1980s, and "brain circulation" since late the 1990s (Breinbauer 2007).

2.1.1 Brain Drain

The term "brain drain" first emerged in theoretical debates in the late 1960s to represent the loss of human capital through trained persons leaving a country (Lee and Kim 2010; Saxenian 2005). One common approach to viewing brain drain is through push and pull factors, explaining the emigration of skilled migrants through the effects of external forces. Usually, push factors in countries of origin include bad economic and

political conditions, as well as limited job opportunities for skilled laborers; while pull factors to host countries include better public and social resources, an open-minded society, a larger job market, and better occupational opportunities, to name just a few (Breinbauer 2007). In regards to student migrations, many studies investigate push and pull factors in terms of the global political and economic forces underlying the migration flows and demonstrate that the migration of highly skilled professionals, especially students, is sensitive to global economic and political contexts (Chen and Barnett 2000; Altbach 1991). The combination of push and pull factors influence student migrants' choices of whether to seek higher education abroad and whether to return to their home countries after graduation. Traditionally, once highly skilled migrants went abroad, few returned to their country of origin, a phenomenon interpreted as "brain drain" for sending countries (Straubhaar 2000; Meyer and Brown 1999).

Some scholars, arguing from a political structuralist perspective, state that although personal and family choice plays an important role in skilled migrants' decision making, individual countries are influential through implementing policies to maintain their human capital. Governments can adjust their emigration as well as immigration policies to attract or to discourage highly skilled migrants. Thus, the migration of skilled professionals is considered not just to be the outcome of migrants' individual choices but also of the ability of countries to successfully compete for talent (Zweig, Fung, and Han 2008; Biao 2005; Mahroum 2005).

While most studies on brain drain have a pessimistic tone, a few scholars argue that brain drain is not always an obstacle to the development of countries of origin (e.g., Commander, Kangasniemi, and Winters 2004). Daugeliene (2007) believes that the brain

drain can have a positive effect on a country's knowledge-based economy in the long term because the emigration of skilled migrants contributes to the home country's economic development through increasing remittances and potential returns in the future. To capture this idea, concepts such as the "optimal brain drain" (Lowell, Findlay, and Stewart 2004; Stark 2004) and "beneficial brain drain" (Beine, Docquier, and Rapoport 2001) have been coined to describe the potential benefits skilled migrants' home countries may obtain in the long run.

2.1.2 Brain Gain

Compared with extensive amount of studies on brain drain, scholarly attention on brain gain for sending countries is relatively inadequate and is mostly under the scope of how migrant-sending countries can re-gain their brainpower after a mass emigration of skilled professionals. For example, by comparing human capital accumulation in migrant home countries after the emigration of skilled migrants with the one after the return of previous skilled emigrants, Stark (1997) argues that brain gain is more likely to happen when a large share of low-skill workers are present in the specific industry in migrant-home countries. Moreover, Meyer and Brown (1999) identify two major patterns for developing countries to implement the brain gain: by the return migration of previous skilled expatriates, and by the diaspora networks to contribute to the home country's development. The first pattern usually links to the brain circulation and highly skilled transnationalism, which requires active policy implementation to attract skilled migrants to return. The second brain gain pattern through diaspora networks relies on the social and cultural ties among expatriates and doesn't necessarily involve the actual return

movement of skilled migrants. As a result, this type of brain gain doesn't require much initial investment on infrastructure or resources from the home countries, but on the other hand, denotes that developing countries couldn't effectively stimulate brain gain through governmental efforts.

2.1.3. Brain Circulation

“Brain circulation” is a concept first introduced by Cao (1996) from research on the return migration of Asian highly skilled personnel from the United States. This concept describes “the mobility of [highly skilled personnel] who have marketable expertise and international experience and who tend to migrate for the short term or make temporary business visits in a country (or countries) where their skills are needed” (Cao 1996, 273). Many scholars argue that the emergence of brain circulation challenges the conventional dichotomy of brain drain versus brain gain as highly skilled migrants flow in both directions (Chen 2007; Blitz 2005; Saxenian 2002; Johnson and Regets 1998). Instead, a two-way flow of skills, capital, and technology is believed to contribute to both sending and receiving countries (Saxenian 2005), and can create a win-win situation when highly skilled migrants benefit the receiving countries during their stay, but also contribute to their countries of origin after their return (Li and Yu 2012).

When skilled professionals cross borders between developing home countries and developed receiving countries, they are not merely viewed as migrants but also as knowledge carriers who enable the transmission of professional knowledge as well as the exchange of intellectual resources between the global north and global south (Blitz 2005). In addition to the technological aspect, brain circulation can also create a snowball effect

for a nation's economic development: highly skilled migrants return and contribute to the knowledge-based economy, the thriving knowledge-based economy will then, in turn, provide more opportunities for skilled professionals, which further promote the circulation of highly skilled migrants (Kuznetsov 2006).

In regards to international students, scholarly attention has focused on the global economic and geopolitical context affecting student migrants, their demographic characteristics, and their return plans after graduation. In the past two decades, the United States has received an unprecedented number of international student migrants in higher education institutions (Wadhwa et al. 2009). Similar experiences are shared by major migrant-receiving countries, including Canada, Australia, and New Zealand (Lu, Zhong, and Schissel 2009; Naidoo 2007; Ziguras and Law 2006). Studies have revealed that major international events, geopolitical relations, and sending countries' development trajectories can have a large impact on student migration flows (Alberts 2007), as well as on their decision making after graduation (Li and Yu 2012; Rosen and Zweig 2005). The impact of professional, societal, and personal factors on individual migrants' decision-making (Hazen and Alberts 2006; Alberts and Hazen 2005), the receiving countries' immigrant policies (Guo and Jamal 2007), the home countries' recruiting policies (RDCOET 2009; Zweig, Fung, and Han 2008; Biao 2005), and the planned length of stay after graduation (Wadhwa et al. 2009) are discussed as factors shaping return migration flows.

In sum, early studies on brain drain assume that highly skilled migrants stay in the receiving countries instead of returning home, causing human capital loss for their countries of origin. On the contrary, more recent studies on brain gain and brain

circulation indicate that highly skilled migrants can flow in both directions, calling the traditional brain drain perspective into question. Chinese student migrants to the US higher education sector provide a possible case of future brain circulation: not only is this a circular flow, with many Chinese students now returning to China from the United States; but also, significantly, this migrant flow benefits both China and the United States.

2.2. Research Methods

To investigate changing migrations trends, I use secondary data from governmental reports from both China and the United States, particularly the US *Open Doors Reports* from 2001 to 2015, and China's 2013 *Report of the Development of Chinese Overseas Educated Talent* (RDCOET). In addition, I use media reports from U.S. university newspapers, from the mainstream press in both China and the United States. I also conducted 11 in-depth interviews with Chinese graduate students who were studying in U.S. universities at the time of interview (April 2010 to November 2011), as well as 17 highly skilled Chinese returnees back to China to provide additional qualitative data. Interviews were conducted by phone in Mandarin and translated into English. Interview questions covered the following main themes: demographic characteristics (including age, gender, family status), legal status, educational attainment (including degrees obtained in the United States, fields of study, and institution attended in the United States), financial issues (including funding source during study and current income source), and plans after graduation.

2.3. Changing Demographics of Chinese Students in the United States

The U.S. higher education sector maintains its exceptional academic reputation throughout the world. This, combined with a trend among US institutions to admit larger numbers of international students in order to expand tuition revenue, has led to an increase in the number of student migrants coming to study and obtaining academic degrees in the United States. This migration trend accelerated after the US government changed immigration policies in favor of employment-based immigration, which also benefits international students. The simultaneous economic growth of migrants' home countries has further strengthened student migrant flows.

The fastest growth of the Chinese student population in the United States started about a decade ago in 2000. From 2002 to 2005, due to the US government imposing immigration restrictions after 9/11, there was a slight decrease in Chinese student numbers. The U.S. government's restrictive requirements and extended screening process for issuing student visas during this period led many Chinese students to look for alternative places to study, such as Australia and Canada. Since 2006, however, the Chinese student population has experienced unprecedented growth, largely due to the significant increase of Chinese undergraduate students migrating to the United States. By the academic year 2013/14, Chinese students were the largest student population in the United States, with 31.0 percent of the total international student population. This represented a 16.5 percent increase over the previous year (IIE 2014).

The enrollment of Chinese tuition-paying undergraduates in U.S. colleges is now booming. The composition of Chinese students in the United States is changing, however, with more and more tuition-paying undergraduate students rather than graduate

students, who typically receive financial aid. The percentage of Chinese students at the graduate level has significantly declined in the past decade, from 80.1 percent in 2000/01 to 42.2 percent in 2013/14, less than half of the Chinese student population. Meanwhile, since 2006/07, the percentage of Chinese undergraduate students has soared from 14.7 percent in 2006/07 to 40.2 percent in 2013/14 (Figure 6).

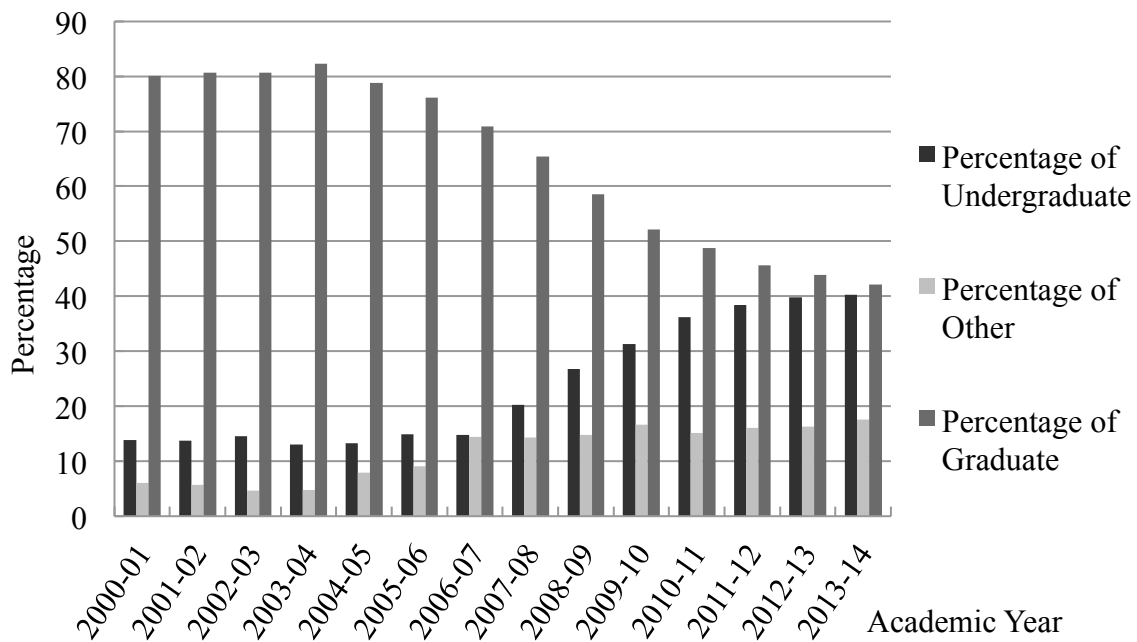


Figure 6. Percentage of Chinese Students in the United States by Academic Level, 2000 to 2013.

Source: IIE 2001-2014.

The increasing wealth of Chinese families combined with recent Chinese government policies that promote student exchanges with academic institutions in developed countries help explain the surging number of Chinese students seeking higher education abroad (Wang and Miao 2013). In most Chinese parents' eyes, a higher education degree can guarantee their children's future, and a post-graduate degree from the western world will further secure their children's edge in the job market, no matter if

their children choose to return home or to stay abroad after they graduate (Simpson and Tan 2008). This mentality is largely due to the higher reputation of academic institutions in developed countries than most of their Chinese counterparts. Thus, a post-graduate degree earned in the United States, in Chinese, “contains more gold” than one obtained from an ordinary higher education institution in China. Thus, after China’s economic reform, going abroad and obtaining an overseas academic degree has become a journey of “gold-plating,” a journey to significantly enhance one’s human capital (Kan 2004).

The new found wealth of China’s booming economy has drawn U.S. universities’ attention to actively recruiting students from China. Compared with their U.S.-born counterparts, international students usually pay much higher out-of-state tuition when studying in U.S. state universities and community colleges, so recruiting internationally can significantly increase an institution’s tuition revenue (Staley 2011). Many US universities contact recruiting agencies to promote themselves in big Chinese cities and sometimes give a certain number of scholarships to outstanding Chinese undergraduate students (Lewin 2008). This proactive practice has become more prevalent since the US economic downturn in 2008. According to the International Student Enrollment Survey conducted by the Institute of International Education in 2014, when asking U.S. higher educational institutions which foreign country or region they would like to actively recruit students, 41.5 percent of respondents selected China as their top country, followed by India with 26.5 percent (IIE 2014).

In addition to the recent increase in Chinese degree-seeking students, the number of Chinese non-degree seeking students in the United States. has also been growing rapidly in the past decade. The Chinese government’s incentive policies for scholarly

exchange with developed countries have provided a major stimulus in this respect. Since 2007, when the Chinese Ministry of Education relaxed their requirements for qualified applicants and increased positions for scholarly exchange, the number of Chinese non-degree seeking students in the United States soared from 2,596 in 2006/07 to 14,761 in 2013/14, and their share among Chinese international students increased from 3.8 percent in 2006/07 to 5.4 percent in 2013/14. Despite their share is much smaller than Chinese students at the undergraduate and graduate level, and the length of the exchange period (mostly nine to twelve months) is much shorter than that for degree-seeking students (from two to more than five years), they are now an important component of Chinese student migrants to the United States because their transnational activities and connections are usually stronger than degree-seeking Chinese students.

Because the US government allows international students enrolled in higher education institutions to have an up to twelve-month-long Optional Practical Training (OPT) period per degree and a seventeen-month extension for Science, Technology, Engineering, and Mathematics (STEM) field students, the population of Chinese OPT period students in the United States has experienced steady growth alongside increasing Chinese student numbers, from 7,171 in 2006/07 to 33,401 in 2013/14. For international students, the OPT program is a transition period in their immigration status from being an F-1 student to becoming an H-1B work visa holder; once they obtain full-time jobs that allow them to get work visas, they would terminate their OPT program as soon as possible to become skilled migrants. The length of the OPT period varies depending on the student's fields of study, the number of H-1B visas available in that year, and the job market situation during that period. The steady increase of Chinese OPT period students

can partly be explained by the increasing number of students studying in STEM fields, who are eligible to apply for a seventeen-month-long extension period of their OPT program, up to a total of twenty-nine months (Chang and Kono 2014). However, shrinking job opportunities for international students in the current U.S. job market, especially positions sponsoring H-1B worker visas, also contribute to the increasing number of OPT period students (Mayberry 2009).

In summary, Chinese students are now prominent in U.S. higher education at all educational levels, in drastic contrast to one decade ago when graduate students accounted for the overwhelming majority of the Chinese international student body. This demographic change occurred largely because of the increasing wealth of Chinese families, the growing visibility of American higher education institutions overseas, recent Chinese government policies promoting student exchange with developed countries, and current U.S. economic and social contexts.

2.4. Return Migration of Chinese Students from the United States

In addition to the large and ever increasing flow of Chinese students to the United States, there is a growing trend of return migration among Chinese students. These return migration trends have become particularly obvious since the US economic downturn. A study conducted by Wadhwa et al. (2009, 3) suggest that, after the 2007-2008 financial crisis, only 10 percent of Chinese students prefer to stay in the United States permanently. This number had already been decreasing after the events of 9/11 when the United States tightened immigration policies due to security concerns. Wang and Miao

(2013) highlights similar trends, with the annual number of returnees back to China increasing over the past decade, from around 5,000 in 2000 to 272,900 in 2012.

The increasing return rate of Chinese overseas students is highly connected to their career plans and family concerns for the future. One major motivation that drives Chinese overseas students to return is the uncertainty of finding a job or obtaining legal status in the United States after graduation. This fear has become a bigger issue since 2008 when economic constriction in the United States makes international students face more difficulties in finding jobs in the United States. As one interviewee in accounting (2F7) explained:

It's totally different now... My friend told me the situation [for an accounting graduate in the job market] was much better in 2006. [At that time] you just need one year at school to get a Master's degree in accounting and then you could get a handful of job offers after you graduate. I know several friends switched their majors to accounting...from biology, physics, and others. But now, even if you have such a degree from a tier one university, it doesn't guarantee you to have an offer by the time your OPT expires.

The challenges faced by Chinese students in the job market are also compounded by language and cultural issues, which are sometimes due to their short period of time in the United State and their lack of cultural assimilation to the US society rather than their English proficiencies. Such challenges sometimes play a bigger role than their actual professional techniques in migrants' job searching experiences in the United States. As described by one interviewee in Engineering (2M10):

It is hard to compete with the native-born [in the job market]. Sometimes, it is beyond the GPA you have and the number of projects you did. One of my American friends and I both applied for a position and both got a phone interview, but eventually he got the on-site interview and I got rejected right after the phone call. I asked him about the interview questions afterward and I think I performed at least no worse than him, and I have a much better resume, but he's the one who eventually got the on-site [interview], not me. [...] The biggest barrier [to me] is

not about the professional knowledge, but about language and cultural difference. Sometimes when the HR [Human Resources] started the interview with a joke, I didn't even understand why it was funny, so I can only pretend laughing, but I know most of my American colleagues can come up with better lines to keep the conversation going. These are things I can't get from school after just three-and-half years of study.

Another stimulus for return migration is their worries about the US tightening policies on work visas for international migrants, especially after the economic crisis. In 2009, the United States Congress significantly increased the visa application fee for U.S. employers who hire more than half of their workforce as H-1B visa holders. Because of the increased fees to hire a foreign employee, many small companies preferred to hire domestic employees at a similar educational level, in order to cut the company's expenses. Thus, this changing policy largely disadvantages international students' prospects in the US job market. As a result, many Asian migrants start looking for jobs in their home countries as a back-up plan, as one male interviewee in business (2M11) explained:

There is a job waiting for me in China, a well-paid one. I know it is tough for me [to find a job] here nowadays, but sometimes you have to give it a try [...] No matter how well you perform in the phone interview, some companies just directly hang up the phone when they hear that you don't have a green card and need H-1B sponsorship...In the job fair, some HRs don't even bother to look at your resume if they know you are an international student [...] This is just not fair.

On the home country side, China's prospering economy and government incentive policies play the primary role in luring highly skilled students to return (Xia 2006), even though nostalgic ties and family reasons are also major reasons for their return (Du, Wang, and Luo 2009). The Chinese government has increasingly recognized the positive economic and social contribution made by highly skilled returnees, especially returnees with US postgraduate degrees, as US universities have provided many Chinese

returnees with advanced research knowledge and professional skills (for example the US National Academy of Science member and current Dean of School of Life Science at Tsinghua University Dr. Yigong Shi, and the founding president of Google China, Kai-Fu Lee). Many national and regional incentive policies have been implemented to recruit highly skilled Chinese graduates from US universities. For example, as shown on Table 2, in 2010, the Chinese government implemented the *Thousand Talent Plan for the Young Professionals* to provide start-up research funding for distinguished youth scholars under 40 years old, with a lump sum of 500,000 RMB (80,000 US dollars) for each awardee. Awardees in this program need to possess a PHD degree granted by overseas universities, and have great potential to become leading figures in China's future academia. PHD students can also be recruited in such program in exceptional cases. Different from Chinese central government's programs which usually offer skilled returnees startup packages on their career development, many Chinese regional incentive policies provide skilled returnees favorable packages on their daily lives, such as settlement compensations, regional residency status (Hukou in China), tax incentives, and other privilege social resources. Such incentive programs have motivated many Chinese overseas students to return home. As one PhD interviewee in science major (2M1) expressed his return migration plan after graduation as:

The idea to return struck me when I went to my high school classmates' reunion dinner [in China]. Many of my classmates who had found jobs after attaining a Bachelor's degree now earn much more than I do—cars, houses, family, everything... and I am still doing useless experiments in the lab ten hours a day and waiting for my almost impossible Green Card... I need to go back to seize the opportunity since I am still young, since I am still willing to make a change in my life.

After I asked him what are the opportunities he could seize in China, he responded, “the Hundred Talent Plans in XX [his home province] at least. I know that both the government and the research institutions in China have favorable policies to attract returnees like me [with doctorate degrees from the United States]... The package was pretty good as I heard.”

In addition to career concerns, for many Chinese students, family reasons are prominent in motivating their return. This attitude is especially strong because recent cohorts of Chinese student migrants in the United States mostly come from single child families due to the Chinese governmental fertility policies of the 1980s; and in Chinese tradition, if parents are alive, children are discouraged from living far from home. Thus, many recent cohorts of Chinese students consider going back to take care of their parents as their responsibility to the family. Not surprisingly, such a concern is more prominent among female Chinese students. As one female interviewee in science major (2F3) mentioned her planned return:

When I heard about my Dad’s total paralysis on the phone, I just couldn’t concentrate on anything here [in the United States]. I have to go back. I can’t leave all caring work to my Mom. She has her job. She can’t be there 24/7. [...] I am the one that should support the family. [...] I am also tired of staying in the lab running programs, tired of listening to my mom whining about why I don’t have a boyfriend at 25 years old. Seeing more and more of my friends getting married and having kids just tortures me. [...] I don’t want to waste my time in the lab and in this small town. [...] Career is not everything to me.

In summary, when considering possible return plans, Chinese student migrants usually make decisions based on their career development and family concerns, and their decision making is also affected by the social, economic, and political contexts in both China and the United States. On the China side, the recent booming economy, the

prosperous job market for skilled returnees, governmental incentive policies, and migrants' family ties motivate Chinese students to return home after graduation. On U.S. side, the recent economic downturn, the difficult situation for international students in the job market, and the tightened immigration policies for skilled migrants all encourage the return migration of Chinese students.

When Chinese international students contemplate their possible return, they take account of opportunities in the United States compared with China's prospects in the near future. Many of them consider the United States as a way station to build up their skills and social capital before they make their eventual decision of whether or not to go back to China. This approach differs significantly from the mindset held by Chinese overseas students in the 1980s and 1990s. Back then people often considered the United States their ultimate destination. Despite their intention to return, many current students would like to temporarily stay in the United States after graduation. As one male interviewee in science (2M4) stated:

My final goal is still the same—to go back to China to open up my own business, just not now. If I went back now, nobody would give me any funding or resources to open a start-up company. Nobody would believe me or believe my ideas. I have to make some accomplishments [here] before I go back, so that I can tell people “See, this is what I have achieved, and what I have been good at.” And that's how I can convince investors to give me funding for my career.

A similar mentality exists among Chinese students who would like to seek academic positions in the US or Chinese universities. As one male interviewee in Engineering (2M6) mentioned:

If I go back [to China] right now, nobody would care [about me]. They prefer those well-known Chinese scholars, those who already made some accomplishment in the United States [...] Right now, to them [Chinese education

institutions], I am nobody. [...] If you want to go back, you have to stay here to establish yourself first.

In conclusion, the number of Chinese students in the United States who intend to return to China in the future, as well as the number of highly skilled Chinese actually returning, has been growing significantly in the past decade. Factors affecting the decision-making of these returns include the social, economic, and political contexts in both China and the United States, and student migrants' career and family concerns. In contrast with previous cohorts, who largely preferred to stay in the United States permanently, recent Chinese student migrants typically consider the United States as a way station to build up their human capital and social resources before returning to China.

2.5. Brain Circulation of Global Talent?

The recent growth in student migration flows from China to the United States and return flows from the United States to China indicate an emerging brain circulation between China and the United States that benefits both sides. For the United States, the increasing number of Chinese undergraduate students provides tuition revenue for many U.S. universities, in addition to the large number of Chinese graduate students who contribute to the US academic and industrial development. For China, highly skilled returnees play important roles as key leaders in academic, economic, and political fields. These returnees are equipped with knowledge and skills from their studies in the United States, and have the cultural knowledge to succeed in China. By 2001, more than 80 percent of the Chinese Academy of Science, more than half of the Chinese Academy of Engineering, and more than three-fourths of Chinese university presidents had overseas

educational experiences (RDCOET 2009). In 2006, the Chinese Communist Party's (CCP) official website ranked the ten most successful highly skilled returnees according to their contributions to China's economic development, and argued that "foreign educational experience is the real treasure" (Ran 2006). Moreover, different from return migrations of other labor migrants, when highly skilled migrants return home, their professional transnational ties tend to maintain strong. Of the 17 highly skilled returnee interviewees, 14 mentioned they still maintain frequent transnational connections with their former colleagues in the United States; seven mentioned they travel to the United States for conferences or collaboration related issues at least once a year; 11 of them had publications with US co-authors in the past two years. All of the above suggests strong transnational ties that are overwhelmingly based on professional closeness instead of personal or family relations. Such tight professional transnational ties signifies a two way knowledge movements that not only highly skilled individuals' movements are in a two-way pattern, but the knowledge carried with them is exchanged in a constantly circular fashion due to migrants' maintaining professional transnational connections with previous receiving countries. Thus, such return migration of the highly skilled back to China can be viewed as a type of brain circulation.

Although current migration trends of student migrants and highly skilled migrants couldn't represent the whole picture of brain circulation between the United States and China, these two-way migration flows can reinforce one another, stimulating future brain circulation of Chinese students and highly skilled migrants. For example, the successful experiences of highly skilled Chinese returnees draw public attention to the advantage of possessing a foreign degree in the Chinese job market. The Chinese term "sea turtle,"

referring to returnees from overseas, is commonly used to describe the privileged social and economic status of highly skilled returnees compared with domestic degree holders. The significant advantage of holding a U.S. higher educational degree in China then stimulates more Chinese students to come to the United States seeking education, creating a positive circular movement of skilled migration between China and the United States.

2.6. Concluding Remarks

This chapter investigated the migration flows of Chinese students to the United States, their possible return migration, and the emerging circular movement of student migrants between China and the United States. As a result of recent economic developments and increasing wealth in China, the number of student migrants from China to the United States has been increasing remarkably. The mindsets of Chinese students have also changed in regards to their decision-making after they graduate from US universities, with far higher rates of return migration of highly skilled migrants in the past decade. Both sending and receiving countries appear to be able to benefit from this flow eventually, with Chinese students coming to the US universities for prestige degrees and contributing to the tuition revenue of US higher education, then returning to China as highly skilled professionals, which can represent a case of a win-win situation in the long run between developing and developed countries. Yet, the reality of increasing Chinese H-1B visa applicants (as a reflection of number of Chinese skilled migrants) shown on Figure 2 reveals a different reality, an increasing number of Chinese students eventually choose to stay temporarily which represents a short-term brain drain to China and a short-

term brain gain to the United States. The reason of such mismatch of return intention between full-time course studying international students to H-1B visa applicants might be a result of their changing return intentions during the transition period to skilled migrants or because of their return migration decision-making process are not always reflective to their return intentions. Both of such possibilities will be examined in Chapter 3 and Chapter 4.

Chapter 3: Chinese Student Migrants in Transition: A Pathway from International Students to Skilled Migrants

In the past two decades, studying abroad for an academic degree has become a popular pathway for students in developing countries to accumulate human capital for better employment opportunities on the global job market. Nowadays, more international students choose to stay in the receiving countries and join their labor force upon graduation (Bratsberg 1995; Lowell et al. 2002; National Academies 2005). Thus, international students, especially those who seek postgraduate degrees, are often considered as an important human capital source to popular migrant-receiving countries (Wadhwa et al. 2009). Yet, barriers and obstacles exist when international students enter the receiving countries' job market and transition to highly skilled professionals, which discourage them from staying and stimulate their return migration. The increasing return migration of skilled migrants gains policy attention from many OECD countries, mirrored by their recent immigration policy favoring skilled immigration (examples can be seen on Australia, New Zealand, and the United Kingdom).

Migrants usually experience a transition period as they move from international students to skilled migrants. In many migrant-receiving countries such as Australia and New Zealand, with policy facilitation from the receiving countries such transition can be in the form of “two-step” migration or “education-migration nexus” (Hawthorne 2010; Robertson and Runganaikaloo 2013). Scholarly attention on international students and skilled migrants arises from distinctly different fields and angles, and as a result the connection between these two groups, the transition period, is typically overlooked with few exceptions. Yet, the transition period of international students is a critical and

important juncture of their lives because they directly face the decision of whether to return or to stay within a limited time of legal stay in the receiving countries while negotiating their transition to the next immigration status—skilled migrants. During this specific time period, migrants socially and culturally construct individual characteristics, usually in the form of social networks and cultural assimilation to the receiving countries. As a consequence, they are largely influenced by institutional and structural forces, such as immigration policy changes in the receiving countries, economic cycles and restructuring, and economic opportunities in their home countries (Hawthorne 2010; Wadhwa et al. 2009). These become important factors in shaping skilled migrants' mobility and location choices (Geddie 2013; Yeoh and Eng 2008).

Previous literature on highly skilled migration states that skilled migrants' high human capital levels largely facilitate their mobility across nation-state boundaries to become footloose global talent (Becker 1975; Aure 2013). Yet, some studies argue that highly skilled migration are far from being footloose, but instead a pattern of “middling transnationals” whose movements are largely under the institutional constraints (Ho 2011; Parutis 2014). Chapter 2 reveals such mismatch between international students' return intentions during their studies and their actual return migration movements post-graduation. One may raise the question: what makes these students change their decisions? Is it because they change their minds or because their returns are not always an outcome of their return intentions? Much relevant work has focused on the institutional forces from the policy level or migrant group level, with little attention on how structural forces manifest at individual characteristics level and shape skilled migrants' career experience post-graduation and further influence their return migrations (exceptions see Nohl et al.

2014). In fact, some studies argue that although human capital at the individual level can be measured by one's educational attainment and professional skills, the economic value, or price, of human capital is greatly embedded in the social and cultural contexts of a specific country and plays a key role in skilled migrants' decision-making process (Bankston 2004; Kōu and Bailey 2014; Shan 2013). The concepts of social capital and cultural capital explain the differences between skilled migrants' professions and their diverse economic outcomes under different societal contexts. By utilizing the concepts of social and cultural capitals, rather than solely focusing on their human capital, in examining skilled migrants' individual characteristics during the transition period, this chapter is able to reveal how institutional forces in both migrant-sending and -receiving countries influence skilled individuals dynamic migration decision-making process and diverse migration movements.

Using Chinese graduate students in the United States as a case study, this chapter studies the experiences of international students in the transition period under the conceptual framework of human capital, social capital, and cultural capital. It specifically examines how social capital and cultural capital impact the economic outcomes of international students' human capital during the transition period, as well as how student migrants develop strategies to cope with such situations during this specific time period and build future return plans accordingly. The United States has long been viewed as a popular migrant receiving country and hosts the largest group of skilled migrants in its labor force (State et al. 2014). China is one of the top sending countries for both international students and highly skilled laborers to the United States (DHS 2013). At the same time, China is also witnessing an unprecedented return migration of highly skilled

workers from overseas, due to its development in knowledge economy and recent governmental incentives to attract skilled migrants (Wang and Liu 2012). In the year 2012, among all skilled migrants who returned to China, the United States is the second top sending country for the skilled returnees, only after the United Kingdom (one major reason is due to the UK's rigid immigration policies; Wang and Miao 2013). The experience of Chinese student migrants in the United States can be shared with developing countries that are experiencing fast economic growth, as well as with developed countries with skilled labor force shortages.

With the objective to reveal how institutional forces manifest at skilled migrants' individual characteristics and further shape their career experiences and return intention, this chapter is organized in the following sections: section 1 revisits previous literature on the international mobility of highly skilled migrants, the concepts of human capital, social capital, and cultural capital, and how the migration of highly skilled and migration for higher education are spatialized. Section 2 provides an overview of research methods. Section 3, based on the interview data, demonstrates how migrants' social and cultural capitals are differently accumulated through the transition period, in response to the instructional and structural constraints migrants face at different stages. Section 4 extends to how such uneven accumulation/development of individual characteristics during the transition period influence the spatialized knowledge migration. Section 5 concludes the findings.

3.1. Literature Review

3.1.1. Social and Cultural Capitals and the Mobility of International Students and Skilled Migrants

Contemporary highly skilled migrants are viewed as one major impetus for the development of knowledge economy of one country and incorporating them has become one method to enhance a country's competitiveness in the globalizing world (examples are Australia, Canada, and the UK; Castles 2002; Duncan and Waldorf 2010; Welch and Zhen 2008). Under such context of competing for global talent, international students are also considered as "desired" and politically invisible among many migrant receiving countries due to their internationalism, human capital level, and tuition contribution during the programs of study (Findlay 2011; King and Raghuram 2013, 127). Moreover, when international students graduate, they often become "nascent skilled migrants who offer the benefits of new knowledge to the labor market with relatively low wages" when they interact with the job market in the receiving countries (Raghuram 2013, 138). Such discrepancy between their human capital and the economic outcome of human capital reflects migrants' career experiences affected by institutional constraints and social and cultural barriers despite their high human capital levels.

Scholarly attention on contemporary migrant workers' career experiences on the global job market overwhelmingly focuses on their human capital deficiency, their foreign credentials, or their language proficiency, that simultaneously distinguishes skilled migrants' career experiences from the ones of other classes of migrants due to their human capital level (Boyd 1990; Reitz 2001). Yet, migrants' social and cultural

capital deficiencies are tightly related to specific societal contexts (Duncan and Waldorf 2010). On one hand, in migrant receiving countries, institutional forces such as glass-ceiling in the workplace, “brain abuse” such as migrants’ foreign credentials not being recognized, “brain waste” such as underemployment in part due to migrants’ concern on securing their legal status, and country-specific discouraging immigration policies all hinder student migrants to maximize the economic outcomes of their human capital when joining the labor force (Banerjee 2006; Bauder 2003; Becker 2009). On the other hand, when skilled migrants return home, their return migrations are not always a satisfactory experience. Their lack of social networks and mismatch with home country’s job market in their professions might hamper their contribution to the development of their home countries (Waters 2006).

The aforementioned social and cultural constraints can manifest as migrants’ social and cultural capitals at individual level and are important in shaping their career experiences during the transition period from international students to skilled labor migrants. In receiving countries, international students’ social and cultural capitals are compromised by their lack of *social and professional networks, their unsecured legal status, the ethnic and racial [in]equality in workplace and job market, and the cultural barriers*, which often impede them to obtain the desired jobs to compensate for their professional skills and education (She and Wotherspoon 2013). Raised from different cultural backgrounds, international students, many labeled as “newcomers,” lack access to social and professional networks, such as alumni associations, professional networks, and ties to professional job information in the market (Putnam 2007; Ryan et al. 2008). This lack of membership in professional networks reflects a relatively lower social capital

than their native-born counterparts. International students usually lack the understanding of a receiving country's job market upon graduation. Hence, they are often prone to work at lower-paid jobs than their domestic counterparts with the same educational attainment level, accepting "reservation wage" in order to secure their legal status and future permanent residency (Constant et al. 2010). In addition, ethnic and racial [in]equality is also significant in racial/visible minority migrants' career experiences in receiving countries' job markets, usually in the form of "statistical discrimination" (the larger the population size of an ethnic group in a particular industry, the higher chances that applicants from the same ethnic group could obtain employment with), "structure-agency duality" (blocked access to some labor sectors leads to migrant concentrations in other industries or sectors that can provide them the best working opportunities), and institutional racism especially in the hiring practice of private sector toward skilled immigrants (Gatchair 2013; Moriarty et al. 2012; Nickson et al. 2005; Sarre, Phillips and Skillington 1989). Cultural barriers also impede skilled migrants in finding better job opportunities in receiving countries (Bauder and Cameron 2002). This is largely due to their non-native-speakers background, their limited shared cultural practices, or their lack of cultural assimilation (Shan 2013; Vygotsky 1980), i.e., their lack of "the ability to follow the rules" and "the skills to 'play by the rules'" (Bauder 2005, 83). With an increasing share of population from Asian and Middle East countries, contemporary international students usually acquire the habitus of "being foreign" which distinguishes them from the mainstream culture in many Western countries (Bauder 2005; IIE 2014). In sum, despite the educational attainments and professional skills international students

obtain, there are still structural and contextual forces hindering them from seeking job opportunities after graduation in the receiving countries.

In skilled migrants' home countries, their career experience is not always a fairytale story either (Wang and Miao 2013). Some return migrations are considered as an unsatisfactory movement and lead to re-migration to previous receiving countries or onward migration to a third country. Among many Asian countries, a Western university degree can often be viewed as a *symbolic capital* (Hayhoe and Sun 1989; Waters 2006), or a "symbolic potency" (Bourdieu and Passeron 1977), due to the relative scarcity of such overseas educational experiences in these societies. This symbolic capital represents "a whole host of cultural, embodied traits conducive to professional success in home countries" (Waters 2006, 181). This enhanced economic value from skilled migrants' overseas education varies by different societal and cultural contexts, so it can be viewed as a type of "bonus" social and cultural capitals that offer skilled returnees privileges to restricted professional networks, elite group memberships, and even "boundaryless careers" (Waters 2006). It also varies by educational degrees where migrants obtain. "World-class university" degrees often can offer migrants highest symbolic value whereas state university degrees usually provide migrants less advantages in their home country's job market (Findlay et al. 2012). It could also become stronger if migrant home country is experiencing a booming development (Williams and Balaz 2004). Yet, international students' long absence from their home countries during their overseas studies can also result in a lack of social connections with their home society, which might harm their social capital in the job market (Bian et al. 2001). Some studies argue

that, compared to skilled migrants' human capital, social capital plays a more vital role in their career development when they return home (Vanhonacker et al. 2005).

In addition to student migrants' social and cultural capitals, gender and family ties are also active individual characteristics involved in their migration decision-making. Specifically, migrants' relationship considerations, family responsibilities, and work-life balance are all tightly intertwined with their location choices (Geddie 2013). Moreover, such personal and family ties intermingled with migrants' mobility also show gender division especially among skilled migrants at STEM fields, and become specifically important in determining the turning points when skilled migrants make their return decisions over their life course (Ackers 2004; Ley and Kobayashi 2005).

3.1.2. Spatialized Knowledge Migration and Capital Transferability of Skilled Migrants

The flows of international student migration and skilled migration can be deeply intertwined with place and space at different scales. At the global level, Kuptsch and Pang (2006) argue that, the globalization of higher educational and flows of international student migrants reinforce and strengthen the global hierarchy of class, namely the migration movements of global talent can only benefit some regions, often the developed countries, while disempowering others at the same time. Such uneven geographical distribution of the human capital and knowledge echoes the prominent scholarly discussion on the "zero sum" situation of global competition for talent (Wadhwa et al. 2009).

At nation-state level, skilled migrants' migration movements reflect a dynamic decision-making process for accumulating and transferring their human, social, and

cultural capitals across nation-state boundaries. Several studies reveal that for skilled migrants, their ability to speak the dominant language of the receiving country is critical to their labor market success and has been viewed as an indicator of their skill transferability (Chiswick et al. 2008; Dustmann and van Soest 2002; Kossoudji 1988; McManus et al. 1983; Tainer 1988). Their non-transferable skills due to language proficiency are highly connected to their declined intention to migrate (de Coulon and M. Piracha 2003). In addition, traditional assimilation models suggest that immigrants usually face occupational downgrading upon arrival because only part of their skills can be transferred from their home countries to the receiving country's job market, and if they extend their stay, they gradually acquire the "[receiving country] specific" labor market experience, which can be viewed as a form of social and cultural capitals (Dustmann and Weiss 2007). Akresh (2008) calls this a U-shaped pattern, revealing that in the United States, migrants face a downgraded US job first and subsequently climb up the occupational ladder. Thus, skilled migrants' social capital transferability greatly impacts their initial career experience in the job market of residing countries (Chiswick et al. 2002; Duleep and Regets 1999). Last but not the least, certain occupations may be in great demand in one country whereas a saturated job market exists in another country, which reflects a diverse transferability on the cultural capital of skilled migrants (Li and Lo 2015; Rajzman and Semyonov 1995). Some occupations (e.g., STEM field professions) may be highly transferable while others (e.g., social sciences and humanities) are country-specific and require prudent knowledge of the societal context. Aure (2013) further specifies that skilled migrants are more likely to enter well-established and open industries and less likely to enter small businesses because the latter

requires close contextual knowledge that usually excludes immigrants. It is noteworthy that the capital transferability is also closely connected to the gender of migrants (Powers and Seltzer 1998) and the age groups that migrants belong to (Mincer 1974; Murphy and Welch 1990). Aforementioned diverse human, social, and cultural capital transferability across nation-state boundaries thus reflects a spatialized knowledge migration.

At the local level, higher educational institutions that host student migrants sometimes act as “knowledge brokers”, which attract migrants differently, augment migrants’ human capital, and direct them to various labor markets (Raghuram 2013). World-class universities can become “IQ magnets” that attract top-level students at the global level, accommodate them to contribute to the local economy, equip them with high human, social and cultural capitals, and eventually facilitate their skilled transferability on the global labor market (Dustmann and Weiss 2007). Moreover, global cities or large metropolitan areas represent a “sufficient depth of employment opportunities,” which become a strong attraction to skilled migrants (Geddie 2013, 203). Skilled migrants knowledge exchange, their transnational connections and cross-border professional networks also contribute to the human capital accumulation at the local level, mirrored in many “smart cities” discussions (Shen 2009). Such uneven local and institutional contexts can also play important roles in shaping current international students’ location choices for their studies and for their career development post-graduation (Findlay 2011).

In sum, by analyzing migrants’ social and cultural capital change when they transition from international students to skilled migrants, as well as its consequent impact on migrants’ career experiences and migration decision-making, this chapter connects the

theoretical discussions on the migration movements of international students and their social and cultural capitals in both migrant home and receiving countries.

From F1 visa students to skilled H-1B visa holders, along with their legal status changes at different stages, migrants gradually change their roles from full-time students to skilled workers. By analyzing the career experiences, obstacles, strategies, and migration decision-makings of Chinese migrants during the transition period from international student to skilled migrant in the United States, this chapter addresses the following research questions:

- 1) Do skilled migrants accumulate their social capital and cultural capital differently during the transition period (from full-time F1 students to OPT holders to first-term H-1B visa holders)? If so, what are the underlying structural and contextual forces that shape their social and cultural capitals?
- 2) How do migrants' changing social and cultural capitals imply geographically on their migration decision-making process and location choices during the transition period?

3.2. Research Methods

This chapter focuses on Chinese graduate students' experiences during the transition period in the United States. The sample population in this study comes from 19 Chinese graduate students at different stages of the transition period in four tier one US public universities (one on the east coast, one in Midwest region, one in the southwest region, and one on the west coast): Chinese students who were approaching graduation (full-time F1 students in the last year of their program of study, excluding J1 students due

to the different legal stipulations); Chinese students who graduated from US universities and were in their OPT period; and skilled Chinese migrants who were in the first-term (first three years) H-1B visa program and had not applied for LPRs by the time of interviews were conducted. Because this chapter focuses on a particular migrant origin country (China), and on a particular migration stage (the transition period of skilled migrants in the United States), it is difficult to obtain publically available data at individual level on this migrant group for random sampling. Thus, all interviewees in this study were selected by snowball sampling. I recruited initial research subjects by posting the recruitment letters on multiple Chinese overseas forums and Chinese social media sites, such as mitbbs.com and weibo.com, as well as via email lists of Chinese Student and Scholar Associations in the sample universities. Through existing interviewees' recommendations, the author recruited the next potential interviewees while trying to balance the project subjects by gender, field of study, and stage of transition period. Cross-sectional data of interviewees were collected and are listed on Table 4.

Table 4. Basic Demographic Information among Interviewees

	Total	Gender		Major				
		Male	Female	Business/ Management	Engineering	Social Sciences	Science	Arts/ Humanities
Full-Time F1 Students	7	3	4	1	2	1	2	1
F1 Students During OPT Period	6	3	3	2	2	0	2	0
Early Stage H-1B Visa Holders	6	4	2	0	3	1	1	1
Total	19	10	9	3	7	2	5	2

All participants in this study remain anonymous. Interviews were audio-recorded with participants' consent and interviewees could select the language of the interview. All interviewees chose to use their first language, Mandarin Chinese, in their interviews. Interview tapes were transcribed in Mandarin Chinese and translated to English with back translation by a hired translator to test validity. Relevant interview topics incorporated migration background, overseas studying experiences in the United States, the social and cultural factors that shaped their job market experiences in the United States and in China, the social and cultural factors that influenced their career plans, and their future return plans and location choices.

3.3. Capital Accumulation during the Transition Period in the United States

Based on the interview data collected from different stages of the transition period, Chinese skilled migrants' human capital, social capital, and cultural capital accumulation

is shown in Figure 7. Chinese students mainly develop their human capital during their programs of study. During the last year of their program of study, their human capital accumulation can be the fastest compared to that of social and cultural capital. It is partially due to migrants' plan to "be equipped with popular skills needed in the job market" (4ME4). When migrants transition to OPT holders, human capital accumulation is no longer a priority for them in most majors, except for those in accounting, whose temporary priority sometimes includes obtaining their certified public accountant (CPA) distinction after graduation, a US-specific profession and skill according to Dustmann and Weiss (2010). As one OPT holder mentioned, "We are already on the battlefield...there is no time to sharpen our blades (learning new techniques) now [during the OPT period]" (3FE11). Thus, during OPT stage, human capital is accumulated much slower than that of social and cultural capital. After skilled migrants obtaining their H-1B visa, their concerns on long-term job insecurity stimulate their desire to accumulate their human capital again, in order to "always be competitive in the job market," according to one H-1B visa holder (4ME4). Such human capital accumulation in the first-term H-1B period is different from the one at the full-time F1 student stage (e.g. knowledge and skill accumulation from school), but instead involves learning specific job-related techniques.

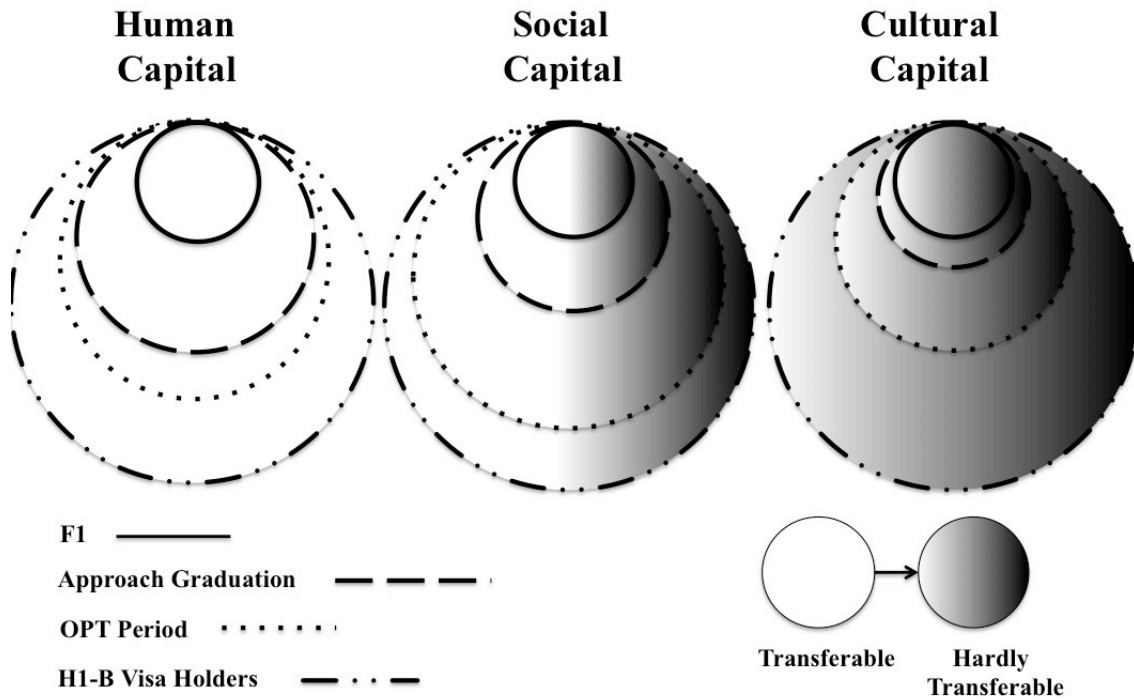


Figure 7. Human Capital, Social Capital, and Cultural Capital Accumulation of Chinese Skilled Migrants During the Transition Period in the United States

3.3.1. Social Capital Accumulation During The Transition Period

When interacting with the US job market, Chinese migrants' limited social networks in the United States, their unstable legal statuses, and their declining transnational connections due to prohibited transnational travels during OPT period all reflect a lack of social capital. Facing such lack of social capital in the US-specific context, Chinese students adopt multiple strategies such as establishing co-ethnic networks, securing legal statuses, and actively extending transnational networks and seeking occupational niches in the US job market to maximize the economic outcome of their human capital. Thus, as shown in Figure 7, the social capital accumulation of

Chinese skilled migrants starts slowly during their programs of study, accelerates during the OPT period, and slows down again after migrants transition to first-term H-1B visa holders due to their temporary stability of legal status.

First of all, with some access to professional memberships through internship experiences during CPT program, many international students start to establish their social networks in the workplace and extend their professional networks through alumni connections, which altogether improve migrants' social capital in the job market. As one full-time F1 interviewee mentioned, “[Internship experiences] is even more important for international students... It is the biggest chance for us to build professional networks [in the job market].” (4FB2) Transitioning to the time-sensitive OPT stage, migrants actively reach out to all potential social networks, including alumni associations and co-ethnic networks in both the United States and China. As one interviewee in art major mentioned, “There is no need to be shy and no time to be shy... You only have so many resources in your hands.” (4FB9) Specifically, for migrants in STEM fields, their large co-ethnic population in the industry can provide them advantages in the job market in terms of co-ethnic ties among skilled Chinese migrants and opportunities for occupational niches, similar to what Rauch (2001) found. Such access to co-ethnic networks is commonly viewed as one major strategy for Chinese students to develop social capital during the OPT period. As one OPT holder in a science major mentioned, “Most Chinese [migrants] are willing to help you within their capability... You can always ask for help through our [university] Wechat forum and our social gatherings. Most of the time, we just discuss work... If someone's company is hiring, we circulate the news... Once you are in the loop, when opportunity comes around, they will think of you for the position.” (4ME16)

Secondly, from the interview data, 13 out of 19 migrants specified their lack of social capital directly related to their legal status and foreign background. Such lack of social capital is exclusively due to migrants' immigration status and distinguishes their career experiences from their domestic counterparts. In response to lacking such type of social capital, many interviewees mentioned the option of seeking positions that require a relatively lower human capital level, or positions with "reservation wage" (Constant et al. 2010). Such devalued economic value of migrant's human capital or migrants' "over-education" to the position (Chiswick and Miller 2009) is more commonly shared among interviewees from arts/humanities, social sciences, and business/management majors. One possible reason is due to the fact that these fields require professional skills that are tied more closely to specific US social contexts, which makes their capital transferability relatively low across nation-state boundaries. As one F1 interviewee in a business major at this stage mentioned, "A lot of my previous colleagues are in positions they are overqualified for, but what else you can do?..." (3FE5).

It is noteworthy to mention that, six out of 19 interviewees didn't directly link their lack of social capital to their foreign background nor to their lack of legal status, although key terms such as "new to the country", or "only [been] here (the United States) for a short period of time" are stated by the interviewees. Also, four out of these six interviewees are from STEM fields, which offer students a 17 months extension, with a total of 29 months OPT period. This divergence suggests longer OPT period can help skilled migrants mediate the impact of their lack of legal status on their career opportunities in the United States.

Thirdly, in terms of transnational connections as a form of migrants' social capital, at full-time F1 stage, Chinese students have frequent transnational activities during school breaks and holidays. Most interviewees mentioned they traveled back home during school breaks at least once a year during their studies. Yet, transnational travels at this stage are mainly confined to family visits and personal trips, instead of business and professional knowledge exchanges. Through such transnational travels, student interviewees "gradually accumulated [their] knowledge about both countries" yet their transnational ties and connections were "rarely built before graduation" (4ME16). At OPT stage, due to their limited transnational activities, a number of interviewees mentioned their strategies for building their transnational social capital were primarily based on reaching out to their former alumni networks in China, such as their former classmates and former advisors, as well as through previous individual professional connections such as former internship experiences in China. Such transnational networks are not limited to interviewees who planned to return but instead act as a "boundaryless" capital that offers them opportunities for occupational niches in the US job market as well, such as bilingual positions in transnational corporations and transnational businesses opportunities for self-employment. As one OPT holder in a business major mentioned, "You can't abandon your previous mentors, classmates, or friends in China. They are your social resources... We have been in the United States for too long, and China is changing every day. They are your 'eyes and ears' if you would like to find a job in China or start your own transnational businesses in the United States" (4MS12). In fact, among six interviewees during the OPT period, four of them mentioned they would like to reconnect with their colleagues/mentors in China to explore the job opportunities

back home, but only two of them were maintaining transnational professional connections by the time of the interview.

3.3.2. Cultural Capital Accumulation During The Transition Period

The empirical result shows that interviewees at all three stages of the transition period shared a common career concern on their “inadequate” (3ME14) cultural capital compared to their native-born counterparts. When approaching graduation, most full-time F1 interviewees at this stage expressed their worries about their lack of ability to share cultural practices with their potential employers or colleagues and about “being foreign” in the workplace. Despite such awareness of their lack of cultural capital, few interviewees considered building cultural capital to be a career priority before graduation but instead included it in their long-term career development plans. As one F1 student interviewee mentioned, “Their [the employers] biggest concern is whether you can communicate with them well or not... If you already have an internship experience on your resume, you don’t need to worry a lot about your accent or ‘being a foreigner’ [when applying for jobs] in big companies.” (3FH7)

During the OPT period, migrants become more aware of their lack of cultural capital in the job market but their cultural capital is accumulated at a slow pace (shown in Figure 7), mainly in the form of learning the “underlying cultural rules in interviews” (3FE5) and workplace culture. As one interviewee mentioned, “The priority [now] is not your English... Your accent takes a long time to go away, and there is not enough time for you to pick up American culture either. [At this stage] find a trusted employer first and foremost.” (4FS8)

Cultural capital deficiency appears more critical among interviewees at the first-term H-1B stage. Their accumulation of cultural capital such as their ability to play by the rules and their mastery of the cultural related “soft skills” becomes priority in their career development when they plan to seek promotions in the workplace (shown in Figure 7). As an H-1B stage interviewee in STEM field mentioned, “No one wants to be a technician forever, but if I want to move upward, I need to be not an outsider [culturally]... Being good at your work is not enough... You have to learn the workplace culture.” (4MS19) Specifically, they accumulate cultural capital by learning the American lifestyle and cultural practices, improving their language skills, and increasing their cultural assimilation level. In addition, some migrants, particularly migrants in high-tech industries, also adopt strategies to relocate and switch jobs to eventually move to a more diverse and “ethnically friendly” workplace, where their lack of language proficiency and cultural background has little impact on their career development. As one H-1B visa holder mentioned,

One of the reasons that I only applied for jobs in big companies is because they are [ethnically] diverse. In XXX [a top high-tech company in the Silicon Valley], your colleagues could be Chinese, Indian, and East European. You don't feel you are different from others... During the last FIFA soccer world cup, pretty much all of our company TVs were playing soccer games on the weekdays, and people talked about the games and watched games together. It is cultural similarity: You are part of the family... But in some small companies, things are different. You have to know American football to blend in. Soccer is never an icebreaker. (3ME14)

In sum, the empirical result of this study reveals one interesting reality of international students during the transition period: although international students possess high level of human capital when starting their transition periods, their career experiences are still largely shaped by their social and cultural capitals at each stage of the transition

period. In response to the institutional barriers in the job market of the receiving countries, student migrants develop their social and cultural capitals differently at each stage and in both countries. International students gradually develop their social capital and cultural capital before graduation at a relatively slow pace. When they transition to OPT period, their social capital accumulation accelerates due to their temporary priority to secure legal status. After migrants transitioning to first-term H-1B stage, their cultural capital accumulation increases as well.

3.4. International Students During the Transition Period- How Social Capital and Cultural Capital Shape Return Migration and Location Choices

Based on the findings above, it is evident that compared to migrants' well-established human capital when they start their transition periods, their social and cultural capitals start from being inadequate compared to their native-born counterparts and become gradually accumulated at the latter stages- the OPT stage and first-term H-1B stage. Such various capital accumulations at different stages greatly affect migrants' decision-making for return migration across nation-state boundaries as well as their location choices at local level.

When international students approach graduation, they can develop their human capital the fastest by learning the specific skills needed in the job market and by improving their working experiences on their resumes. Thus, at this stage, migrants' high level of human capital and lack of social and cultural capitals in the United States altogether make their "resources highly mobilized" (Cassarino 2004) and highly transferable, which makes their immediate returns upon graduation cost the least. Thus,

before graduation, students' intention to reject return can be the lowest throughout the transition period due to their high capital transferability and their worries on the lack of social and cultural capitals in the US job market. In fact, six out of seven interviewees at this stage kept return migration as one option of their future when they graduate. At the local level, their location choices are not voluntary because they are required to stay on campus before graduation. Yet, more students also choose to temporary stay in the United States, because of the OPT program available for international students upon graduation. Such availability of OPT period acts as a buffer time period for international students to develop their career plans based on their career experiences in the United States and to make their future return decision. Many students intend to take the advantage of OPT period with a pragmatic return plan seeking best job opportunities regardless of location preferences in China or in the United States.

When transitioning to the OPT period, migrants face the lack of social capital and cultural capital in the US job market while in a “clock-ticking” grace period for legal staying in the United States. At this stage, migrants usually actively build their social capital by extending their existing social connections, building co-ethnic networks, and strengthening transnational ties in order to obtain more information and access to job opportunities, as well as gradually improve their cultural capital. Meanwhile, they often keep their options open for job positions in their home country China, and compare their social and cultural capitals in both countries in order to maximize the economic value of their human capital. In contemporary China, US postgraduate degree represents a relatively better quality of higher education and skilled returnees from top US universities are usually considered as gold-plated elites. Skilled returnees thus often can obtain a

bonus social capital that enables them to access exclusive social networks based on their overseas educational degree (Wang and Liu 2012). Moreover, in many circumstances of China's workplace, returnees with a US degree are perceived to be more capable in "boundaryless careers" that require frequent transnational activities and bilingual communication skills (Waters 2009). Hence, returnees' bilingual and bicultural experiences can also create a bonus cultural capital exclusively related to their US educational experiences (Waters 2006). At this stage, migrants' social capital and cultural capital are gradually accumulated with part of them highly transferable across nation-state boundaries. Thus, migrants' capital transferability becomes relatively lower than F1 stage, yet still partially transferable which makes China a strong attraction for migrants at this stage to return. As one OPT holder in engineering mentioned, "I used to reject the return migration option throughout my studies [in the United States], but now... return is an option to me... Working in the United States doesn't mean you are a winner anymore. There are opportunities in China too, especially for overseas students... incentive plans, settlement package, you name it." (4ME16) At local level, migrants' location choices are highly tied with their job locations, as one business major interviewee mentioned, "do not picky on the location of the first job" (4MB18). Moreover, it is also worth to mention that relationship concerns also play an important role in the mobility of migrants during OPT period at local level. A number of OPT holders interviewees mentioned they moved or plan to move to live with their partners after graduation and seek job opportunities closer with their partners' locations. Yet, little gender difference is observed regarding the partnering concerns.

During the H-1B period, skilled migrants are able to travel more frequently between China and the United States and obtain more job market information from both countries. Their transnational network becomes stronger, which makes their social capital more mobile and transferable. Thus, at this stage, migrants' return migration plans become more detailed and sophisticated. In addition to considering their bonus social and cultural capitals in China's job market if they return, first-term H-1B visa holders also believe their years absent from Chinese society can put them at a disadvantage situation in the form of lacking social networks in the workplace and cultural capital in Chinese society. The longer migrants stay and work in the United States and are absent from Chinese society, the higher cultural capital they have in the US context, similar with Akresh's (2008) U-shape pattern, and therefore larger lack of social and cultural capital they face in the Chinese society. Consequently, the longer migrants stay in the United States, the lower capital transferability and the larger cost for the return migration they have. Thus, at the last stage of the transition period, migrants make their return plans based on comparing their growing social and cultural capitals in the United States, with the possible bonus or lack of social and cultural capitals in China if they return. Interestingly, when migrants take into account of cultural capital in China, especially in China's workplace, gender role becomes a salient factor. As one first-term H-1B visa holder in social sciences mentioned,

I never imagined that someday I would turn down a job offer in China just because I was afraid I wouldn't fit in... At the onsite interview, I felt like I was a social dumb: having no idea how to speak politically correct in Chinese, not being able to say 'pretty words' to my bosses or my colleagues... It is even after someone pointed out to me that I knew I need to stand up and pour tea when the boss comes around... All these years of learning American culture doesn't give me any edge for working in China. If I went back, I would need to start over

learning the Chinese workplace culture again... Right now, the United States feels more like home to me. (3FSS15)

At location level, first-term H-1B visa holders, compared to migrants at the other two stages of the transition period, have stronger location preferences for better career opportunities, partnering concerns, or even for seeking “metropolitan life like [they] used to have in China” (4ME4). Thus, at different stages of the transition period, student migrants accumulate their human, social, and cultural capitals differently as a response to their career experiences at each stage. The different accumulation of human, social, and cultural capitals creates different capital transferability at each stage and eventually shapes migrants’ decision-making for return and location choices during the transition period.

3.5. Concluding Remarks and Discussion

In the past two decades, the economic globalization and the increasing international market of higher education have enabled unprecedented international migration for higher education from developing countries to developed countries, and have generated a reverse and growing migration flow of highly skilled professionals. For international students and early-stage skilled migrants, their migration movements can be considered a calculated strategy to achieve the best economic outcome for their human capital instead of a family strategy. Despite abundant literature on both migrant groups, little scholarly attention has been given to looking at the transition period between these two migrant groups, especially their social and cultural advantages and constraints in the job market. Yet, such transition period of skilled migrants is critically important because

migrants' decision-makings for return across nation-state boundaries and their location choices at local level are greatly shaped by the structural and contextual forces from both sending and receiving countries. Its implication not only is helpful for migrants themselves, but also to policy makers who would like to retain such skilled labor force in the country.

From 19 in-depth interviews with Chinese migrants at different stages of the transition period, this chapter explores how migrants' social and cultural capitals influence their career experiences at different stages of the transition period; how migrants develop their human capital, social capital, and cultural capital differently in response to their career experiences and eventually shape their migration movements. It reveals that international students develop their human capital, social capital, and cultural capital differently at each stage of the transition period as a result of the institutional obstacles migrants face at different stages. During the transition period, migrants also adopt different strategies to improve their career situation in both sending and receiving countries, such as obtaining information on what specific skills are needed in the job market through participating in the CPT program; establishing and extending social networks, especially co-ethnic networks; starting to build language and communications skills and becoming culturally assimilated; and seeking career opportunities in their home country, China. Moreover, migrants' social and cultural capitals have great impact on their career experiences under different societal contexts, and consequently influence their migration movements and location choices. Migrants compare their social and cultural capitals in both the United States and China during the transition period in order to find the best societal context to maximize the economic outcome of their human

capital. The findings of this chapter bridge the gap between two bodies of existing literature, the literature on student migrants and the one on highly skilled migrants. By combining the concepts of social and cultural capitals with capital transferability, it also provides a perspective different from traditional neoclassical economics theories on understanding global skilled migration (De Coulon and Piracha 2005). Its empirical results also provide policy implications on understanding the realities of this potential skilled foreign-born labor force. Moreover, on the international level, this paper can provide interesting examples to understand how growing international education accelerates the migration movements between newly emerged economies and popular immigrant-receiving countries in both directions. It can also shed light on the existing discussion of international competition for global talent and human capital accumulation.

Chapter 4: To Stay or to Return? Return Intentions and Return Migrations of Chinese Students During the Transition Period in the United States

The increasing pace of globalization and competition for highly skilled professionals has accelerated migration of skilled workers across national boundaries for knowledge exchange and economic opportunities. Today, we are also witnessing a growing number of skilled migrants being trained outside of their home countries. Many popular migrant-receiving countries have recognized international students, especially those who seek postgraduate degrees in their higher education sectors, as an important pool to increase skilled labor force. Among these popular migrant-receiving countries, the United States is a prime example, hosting an increasing number of foreign students in her higher education sector and continuing to accommodate highly skilled foreign college graduates in her job market. Yet, issues and obstacles exist when the US government tries to recruit and retain such highly skilled professionals as part of its human capital accumulation, as mirrored in President Obama's Inaugural Address in January 2013 on the need for immigration reform: "Our journey is not complete until we find a better way to welcome the striving, hopeful immigrants who still see America as a land of opportunity; until bright young students and engineers are enlisted in our workforce rather than expelled from our country" (Obama 2013).

Traditionally, migrant-sending countries face severe human capital loss when developed countries retain international students after they become highly skilled professionals (Beine et al. 2008). Many of them share a common worry of losing their human capital and global competitiveness, which has led to numerous governmental

policies establishing diaspora ties with skilled expatriates and providing attractive policies to welcome them back (Li and Yu 2012; Zweig, Fung, and Han 2008). The rising domestic economy and shifting international relations in some developing countries, such as China and India, start to alter such human capital loss by attracting highly skilled professionals, including skilled returnees and foreign professionals. The recent growing return migrations of highly skilled workers from developed countries to developing countries reflects a changing mindset of return intentions among contemporary skilled migrants (Saxenian 2005; Wadhwa et al. 2009).

The decision-making process of international students and highly skilled migrants who stay in migrant-receiving countries, return to migrant-sending countries, or move on to another country has drawn abundant scholarly attention (Carr et al. 2005; Gibson and McKenzie 2011). Specifically, migrants' return intentions at different stages of their careers can often be time sensitive. Yet, research on student migrants mainly focuses on their future return intentions before students become familiar with the job market information in both migrant-sending and migrant-receiving countries (Hazen and Alberts 2006; Li et al. 1996). Previous literature on highly skilled return migrations overwhelmingly look at the return actions of labor migrants from receiving countries regardless of their previous migration experiences (Duncan and Waldorf 2010; Hall and Khan 2008; Johnson and Regets 1998). In fact, the two migrant populations, international students and skilled migrants, have some degrees of overlap and mainly differ by migration stages and legal status. Many international students become skilled migrants after experiencing a transition period in migrant-receiving countries. By looking at the decision-making process among skilled migrants in the transition period, this chapter

reveals their changing return intentions, return migration plans, and return migration behaviors during the transition period. It also can distinguish the underlying factors in order to establish a link between the two migrant population groups.

By 2014, Chinese are now one of the largest international student groups and highly skilled migrant groups in the United States (IIE 2014; DHS 2013). Recent studies in China also show an unprecedented influx of highly skilled returnees back to its job market (41.3 percent growth rate in 2012; Wang and Miao 2013), as a typical example of increasing return-migration flow of highly skilled workers from developed countries to developing countries. From the qualitative data of in-depth interviews among Chinese international students and skilled migrants in the United States as well as a recent skilled Chinese returnee case study, this chapter explores skilled migrants' dynamic decision-making process for return during the transition period, specifically their changing return intentions, return migration plans, and the return migration behaviors. The chapter is divided into four sections: the first section revisits previous literature on international highly skilled migration and specifically discusses the return intentions, return plans, and return behaviors of highly skilled migrants. I then state the research design of this chapter, reiterate the three stages of the transition period, and state the research questions of this chapter. The third section discusses the findings of this chapter by identifying the changing return intentions, return plans, and if they direct migrants' return migration behaviors at each stage of the transition period. The concluding section provides policy implications.

4.1. Highly Skilled Migrants: Return Intention and Return Migration

Prominent approaches and perspectives in migration studies emphasize the macro-level factors that explain the return migration flows, such as the *neoclassical economics*, and the *structural approach*, along with the framework of *transnationalism*. Neoclassical economics consider that return migration indicates migrants could no longer seek better economic benefits from migrant-receiving countries, and their return is a response to the broader political economic contexts (De Coulon and Piracha 2005; Todaro 1969). From a structural approach, scholars view the institutional and structural contexts and access to information as key factors in return migration decision-making (Cerase 1974; Cheng and Yang 1998; Gmelch 1980; Tiemoko 2004). Structuralists usually highlight the inequality between migrant-sending and migrant-receiving countries (Cheng and Yang 1998), while underestimating returnees' experiences, as they are unable to embed their career plans and acquired skills from former receiving countries into their home society due to institutional constraints (Cerase 1974). Studies in transnationalism challenge the return migration approaches by demonstrating a new pattern of circular movement in international migration. They argued the temporary return movements of skilled migrants can pose an example for a transnational lifestyle in which migrants make their migration strategies in between home and receiving countries with the balance of pursuing the best economic opportunities in different life cycles (Portes, Guarnizo, and Landolt 1999). From a different yet related point of view, some scholars from the social network theory believe that migrants make their return decisions based on their social networks in both home and migrant-receiving countries, and based on different levels of preparedness and resource mobilization (Cassarino 2004; Thomas-

Hope 1999). Such social networks can also be viewed as one form of transnational connections.

Migrants' return migration and their return intention do not manifest in a similar fashion. Scholars from migration psychology advocate the importance of micro-level factors of migrants, such as their attitudes, values, perceptions, and intentions, in their migration decision-making process, rather than external factors (Canache 2013; Fawcett 1985; Jokela 2009; Lu 1999). Their research also shows that migration intention is a strong determinant of migration actions (Ajzen and Fishbein 1980; Fawcett 1985). Specifically, Goldsmith and Beegle (1962) distinguished three stages of the migration decision-making process: desire and intention to move, consideration to move, and expectation of movement behavior. Influential factors in affecting international migrants' return intentions include their lack of assimilation and integration in the receiving countries, their family and social connections with their home countries, and their home countries' policy incentives (Simmons 1985; Tannenbaum 2007).

Yet, some studies argue that migration intention often involves other salient factors (Gmelch 1983; King, Strachan, and Martimer 1985; Waldorf 1995). Moran-Taylor and Menjivar (2005) categorized migrants' intentions into *assertive*, *ambivalent*, and *no desire* to return and revealed that migrants eventually make their "to stay" decision while holding longings to return to their home countries. Senyurekli and Menjivar (2012) specifically examined the ambivalent group, whose return intention is uncertain and subjected to social and cultural contexts of both migrant-sending and migrant-receiving countries. Particularly for highly skilled migrants, their return motivations and intentions can be linked to out-migration intentions (Güngör and Tansel

2008), as well as their expectations of life in origin countries compared with their already promised lives in the previous receiving countries (Gmelch 1980). Furthermore, King (1986) and Waldorf's (1995) work distinguished the importance of timing and length of stay in receiving countries in affecting the migrants' return-migration intentions, which suggests a perspective to analyze the important turning points for return migration decisions.

Aforementioned factors are important in understanding the return intentions and return migration flows of Chinese students in the transition period in this study. It is not only because student migrants mostly concentrate in a specific age group (in their 20s to 30s) whose mobility can be relatively higher than migrants in other age groups, but also because their migration decision-making processes are more likely to be career oriented (Dustmann 2003; Dustmann, Fadlon, and Weiss 2011; Güngör and Tansel 2008). Moreover, China's specific context, a thriving domestic market and economy mixed with social and political constraints, exhibits opportunities as well as risks in migrants' return migration decision-making process (Zweig 1997).

4.2. Research Design

The transition period of international students includes multiple stages, starting from migrants still enrolled in their programs of study, followed by their job-searching period, and eventually becoming part of the highly skilled labor force. By taking the case study of Chinese international students in the United States during transition periods, this chapter specifically addresses the following research questions:

1) Are migrants' decision-making process (return intentions, return plans, and return behaviors) different at different stages during the transition period from international students to skilled migrant workers? What are the key factors that yield such differences?

2) At each stage, do migrants' return intentions direct their return plans and return behaviors? If so, how?

Qualitative data in the form of face-to-face or phone in-depth interviews were collected at the following three stages during transition period of Chinese students in/from four US public universities in the year of 2014:

- Chinese student migrants who are approaching graduation
- Chinese migrants who graduated from US universities and are in their OPT period
- Highly skilled Chinese migrants who are in the first-term of their H-1B visa programs without applying for US LPR.

A separate set of interviews was conducted among returnees in Beijing and Shanghai via phone interviews in 2014. Interviewees were selected from Chinese highly skilled returnees who came to the United States after 2000 and returned to China during the transition period. All interviews were taped anonymously with their consent and were conducted in Chinese. All interview data were transcribed and translated to English. Interview themes incorporated migration backgrounds, overseas experiences in the United States, migrant return intentions, current career plans, and future plans regarding staying in the United States or returning to China. Specifically for Chinese skilled

returnees, interview themes also involved main reasons for their return and their decision-making process.

Due to the nature of the sample population (specific ethnicity and migration statuses) in this study, all interviewees were selected by snowball sampling. Recruitment methods include posting recruitment letters on multiple Chinese overseas forums and recruiting participants from Chinese social media. Specifically for recruiting skilled returnee participants, I obtained help from several non-profit organizations in Beijing and Zhejiang Province, such as The Association of Chinese Elite Returnees, and China Youth Returnee Association, and distributed the recruitment letter through their Wechat email lists. Cross-sectional data of 19 Chinese graduate students in the transition period in the United States and 17 Chinese returnees were collected and are listed on Table 3.

4.3. Return Intentions and Return Migrations among Chinese Student Migrants during the Transition Period

4.3.1 Approaching Graduation—Ambivalent Intentions, Pragmatic Plans, and Immediate Returns

It is noteworthy to mention that migrants' return intentions and plans start with very blurry or even no plans at all when they arrive in the United States. Through their programs of study in US universities, they gradually comprehend options available to them and develop their future return plans. Most interviewees' out-migration behaviors are largely under the impact of peer influence and parental impacts; as mentioned, “[it is] because most of my friends were applying for the US universities at that time” (4FB2).

Prior to their out-migration, their knowledge about the study lives in the United States was very limited. This lack of information and self-planning in the decision-making process of their out-migration resulted in their blurry plans for the future when they first came to the United States. This, contrary to Güngör and Tansel (2008)'s work, has little impact on their return migration decision-making process.

Migrants' return intentions become clear, though still somewhat ambivalent, when they approach graduation. 27 out of the total 36 interviewees (during the transition period or returned during the transition period) mentioned that they gradually established their knowledge of the two countries and assessments of their career developments through their frequent transnational travels and information exchanges during their programs of study. Most of them indicated that they visit China at least once a year. Such transnational activities, commonly in the form of traveling home during school breaks, have deepened students' understandings of the two countries and assisted students in building their social networks in China. Moreover, even with a lack of knowledge on specific immigration information needed to legally work in the United States, all seven interviewees at this stage expressed their fears of "fitting in" to the US job market as the primary concern in considering staying in the United States.

Similar to the perspectives of migration psychologists, the developing perceptions of both countries and transnational connections are important individual level factors affecting students' return intentions. Moreover, different from the perspective from New Economics of Labor Migration, because majority of interviewees are still single at this stage, their own career developments, rather than family strategies, appear as the primary concern and key factor that shaped their return intentions. They actively seek all possible

job opportunities in both countries regardless of location preferences, which results in their ambivalent return intentions at this stage. As one science student mentioned, “I am not picky on the location. As long as I am well paid, I am taking wherever [the job is]... China or the United States, east coast or west coast, doesn’t matter to me” (4MS1).

With these perceptions and mentalities, five out of seven interviewees chose to readjust and readapt their return plans towards more pragmatic and geographically flexible ones. Their return plans became flexible geographically. Specifically, their location preferences became less of a determinant compared to the available job opportunities, or in one interviewee’s words, “Go where the job goes” (4MSS6). Six out of seven interviewees at this stage would like to evaluate their job opportunities in the United States, compare them with their employment advancement in the Chinese job market with a foreign degree, and incorporate this into their decision-making process for possible return migrations. As one business student (4FB2) mentioned:

You can’t put all eggs in one basket... You need to learn to “walk on both feet” (to put your feet in two countries). I have my profile on both LinkedIn and Yingcai.com (one major Chinese online job-application website) and keep my eyes open for good positions in both countries. If I can get a competitive job in China, I don’t even bother to go through the hassle of OPT and H-1B stuff. If not, I can still stay a bit longer in the United States [after graduation] to see what [opportunities] I can get [here].

At this stage, similar to Goldsmith and Beegle’s (1962) three stages of migration decision-making process, migrants’ immediate return-migration behaviors can be greatly directed by their return plans due to sudden job opportunities or access to social resources in China. Such job opportunities are sometimes closely connected to migrant transnational activities during their programs of study. Most interviewees at this stage

mentioned establishing and maintaining their social networks through their visits to China during their studies in the United States. Such social networks can be built through students' former alumni networks in China, such as their former classmates and former advisors. They can also be built through individual professional connections such as student participation in internships in Chinese corporations or attendance at professional conferences. As one returnee mentioned, "The reason [I moved back is] my PhD advisor came back to China to teach at XXX university (a prestigious Chinese university). He was appointed as associate dean of the school (at XXX university), and the school expected to expand by hiring more junior faculty there. That is why I came back ... At that time, my boyfriend was still in the United States for his study ... It is all about the timing" (4FSSR25).

Another type of immediate return at this stage can also be viewed as an outcome of migrant return intentions based on their family concerns. It is common among the current cohort of the Chinese student migrants because they are mostly from single-child families due to China's one-child policies since the 1980s. This specific factor results in a series of demographic and social issues that involve family structures and caring responsibilities. Moreover, Chinese cultural tradition expects the children in the family to be responsible for caring for elderly family members. These family responsibilities involve living with or close to their parents and providing care when their parents are sick. Thus, such specific demographic profile of Chinese international students associated with their cultural background creates a strong transnational tie between migrants themselves and their families in China. Most interviewees who are from single-child

families, especially females indicated that they would consider returning home if their families need them. As said by one returnee who returned upon graduation:

My dad is already sixty-three years old and my mom's health is not quite good either. They put a lot of money and made sacrifices to make me study overseas. It is my responsibility to make sure they will have a good elderly life ... They are too old to move to a new place and readjust their life to the United States. Also, they don't have any health insurance in the United States either. I want to make sure that if any bad things happen, I will be there with them in the first place. (4MER33)

Hence, the experience of students at this stage suggests that Chinese students usually start their studies in the United States with very blurry plans for the future. Through their transnational activities and connections built during their programs of study, they gradually obtain knowledge for their future personal and career development. When they approach graduation, migrants' individual factors, such as their perceptions about both countries and transnational connections, play key roles in shaping their ambivalent return intentions. Such ambivalent return intentions result in migrants' pragmatic return plans that are overwhelmingly determined by their job opportunities, mirrored on their flexible location choices. Migrant return behaviors can be viewed as an outcome of their return-migration plans at this stage, due to job opportunities in China or family concerns.

4.3.2. OPT Period—Declined Return Intentions and Involuntary Returns

When international students finish their programs of study, they can be enrolled in the OPT program. During this period, students are able to work full time outside of campus and transfer themselves to skilled workers. This 12-month period for legally seeking job opportunities in the United States becomes a significant driving force for

Chinese students to temporarily stay in the United States after graduation and an impetus for them to postpone their return plans in order to explore the US job market and, more so, to gain US work experiences. Thus, at the OPT stage, contradicting migration psychology perspectives, migrants' return intentions and return plans are largely a result of the external contexts rather than their own career-development preferences.

At the OPT stage, a number of interviewees preferred taking advantage of the OPT period to explore job opportunities in the United States as their primary concern and strategically compared the job market for skilled professionals in both China and the United States. Their return intentions thus declined at this stage. First of all, job opportunities for highly skilled returnees in China have been changing from universally promising to becoming a case-by-case situation in recent years. The growing population of highly skilled returnees from the West back to China with advanced degrees has caused skilled returnees to face harder competitions and to take longer time to find a satisfying job in China's job market (Wang and Miao 2013). These worsening situations are primarily due to the diversifying returnee population because their foreign degrees no longer uniformly represent high-quality education but instead range from well-distinguished Ivy League universities to third-tier colleges. Yet, due to the lack of knowledge on the rankings of US universities in China, this diversity raises doubt from the employers on the "authenticity" of returnees' foreign experience. As one science major interviewee mentioned:

There are a lot of opportunities [back there], but they are not for us. Unless you have a degree from Harvard or Yale, there is really no difference between you and third-tier college-degree holders. Can you believe that they think University of Wisconsin-Madison is no different from those community colleges? My interviewer asked me how much I paid to "buy"

my master's degree, because he thought UWM is one of those "fraud universities" that only exist on the Internet, not in reality. (4FS8)

In addition, the OPT program policies largely limits migrants' transnational mobility at this stage. Their return migration thus could become a one-way movement, which indicates that once they take the employment opportunities back in China, they are no longer guaranteed to re-enter and legally work in the United States as OPT holders (ICE 2015). Such OPT policies largely discourage Chinese students from seeking job opportunities in China via transnational travels, but to solely rely on former transnational connections and previous social networks in China. The large risk to return associated with the uncertain job situation for skilled returnees in China's job market made many interviewees' return migration a risky move that cannot be reversed at this stage, and consequently discouraged their return intentions during the OPT stage.

With a preference to temporarily stay in the United States, several interviewees postponed their return plans till the end of the OPT period, or they considered returning to China as their backup plans. Yet, none of the interviewees at this stage mentioned that they would totally abandon their return-migration plans in the future. While it may involve selection bias for snowball sampling method, one common reason for them to keep such return plans in their future is due to their constant worries regarding their legal status in the United States. All interviewees at this stage identified the lack of legal status as their biggest concern when making their future career plans. Their return plans at this stage are often expressed as "If I can't find a sponsor in time, I can still go back to China..." (4MS12), or "If I can't get an H-1B visa in the United States, I will consider going back to China..." (4ME16).

It is worth mentioning that returning to China is not always a worst-case scenario for OPT students. Three out of the six OPT interviewees considered China a better place for developing their careers in the long term but not at the current stage because staying in the United States could provide them more career opportunities, work experiences, and social resources. As one interviewee mentioned, “My family can find me a job back in China anytime [when I want to go back], but I still want to have a try in the US [job market] first. Maybe I can find a job here, who knows? ... Going back is always a window open for me, but chances for staying in the United States are limited ... Even if I decide to go back [to China], having employment experiences in the United States is always a big plus on my resume” (4MB18).

Different from Goldsmith and Beegle’s (1962) point of view, at the OPT stage, students’ return migration behaviors can hardly be viewed as a result of their return plans, but instead largely depend on external factors, such as immigration policies, or sudden job opportunities in China. One common reason for the return behaviors at this stage is due to migrants losing their legal status, leading to their involuntary return. Since 2013, the annual applications for H-1B work visas have increasingly exceeded its annual quotas, which indicates not all OPT holders are able to transfer themselves into being skilled migrants even though they are able to secure a job opportunity in the United States (USCIS 2015b). OPT holders who are not able to win the H-1B lottery have to return to their home countries when their OPT program expires (DHS 2015). Lower and lower chances for winning the H-1B lottery in recent years significantly contributed to the increasing return-migration flows from the United States to China during the OPT period (USCIS 2013, 2014, 2015b). In fact, several returnee interviewees who returned to

China during the OPT period actually made their return decisions within the final two months of their OPT period. As one of the returnees indicated, “It [my return] was not my choice. I had no options. My OPT expired ... I didn’t want to apply for a community college and switch to F1 visa again just in order to extend my legal stay. It’s not worth it. So I packed my stuff and got back to Beijing. Looking back, it is all about fate” (4FB9).

In addition to involuntary returns, some return behaviors are also due to migrants’ secured job opportunities in China. Such opportunities associated with migrants’ constant worry about losing legal status in the United States can prompt them to make a return migration decision. As one of the returnees mentioned,

By that time (the time he returned), I still had about a year-and-a-half left for my OPT, long enough to take H-1B lottery the next year (2014), but my former classmate in China let me know about an open position in Shanghai, in a multinational company ... The salary couldn't compare to the one I could have gotten in the United States, but I wasn’t sure if I can still keep that job offer in the next year after my second H-1B lottery. So I took the chance [to return] ... Maybe I was just tired of the uncertainty.

In sum, when migrants transition to the OPT stage, their return intentions can decline as a result of the social and political impacts in both China and the United States. Their return plans thus become postponed until the end of the OPT period. Yet, these declined return intentions and postponed return plans could not always direct migrants’ return behaviors at this stage because many return migrations are also under the impact of migrants’ losing or fear of losing immigration status in the United States.

4.3.3. First-term H-1B Visa Period— Divergent Return Intentions, Delayed Return Plans, and Declined Return Migrations

When migrants successfully transition themselves from the OPT program to the H-1B visa program, they would reach the last stage of the transition period. The H-1B visa program permits skilled migrants to travel more frequently internationally. Such transnational travels, different from the ones during students' programs of study, can provide Chinese skilled migrants more profound understandings of job market information, industry situations, and quality of life in China. Yet, their return intentions at the first-term H-1B visa period are not in sync with their increased transnational activities. In fact, the return intentions of H-1B interviewees can be viewed as an outcome of their own career development and their strategies based on the social and cultural contexts of China and the United States. Similar to migrants from other immigration categories (Moran-Taylor and Menjivar 2005), some H-1B interviewees intended to extend their current stay in the United States in order to obtain permanent legal residency, while longing to return in the long-term.

Such divergent return intentions between migrants' current stage and their long-term career development can result in disparities between their short-term and long-term return plans. Due to their lack of legal permanent residency at the current stage, all six H-1B interviewees' career plans involved accumulating their human capital and social resources. Specifically it can be in the form of career promotions and building professional networks at workplace in the United States. Such short-term career plans can benefit their long-term career development regardless of their returns to China in the future. As an H-1B interviewee indicated, "I will consider returning [to China] when I get

my green card ... Before that, I only need to focus on building my own skills. You need to build your reputation in the United States first if you want to be recognized in China” (4ME4). Moreover, in the long-term, social and political factors, such as legal permanent residency, become determinants that not only influence skilled migrants’ return intentions but also denote the turning points that skilled migrants face in regard to their return decisions. As an H-1B interviewee mentioned, “The idea of returning to China has always been on my mind ... but you can’t return without a backup plan. If something goes wrong [after my return], I can still come back to the United States if I have a green card” (4MS19). Thus, at this stage, migrants have specifically short-term staying plans affected by their individual human capital accumulations, while holding long-term return plans which is also shaped by the social and political factors in the United States. As one participant mentioned, “Return [to China] is just a matter of time ... but is not what I need to think of at the current stage” (4FE17).

Despite that most H-1B interviewees’ return intentions and return plans were based on their career development and current quality of life in the United States, their actual return decisions also involved their expectation of return from their knowledge of China through transnational activities. Such expectation sometimes combined their worries about lacking social networks in Chinese society due to their long absence from China. Thus, their return behaviors can be viewed as a result of the considerations of what is possible instead of what can be possibly desirable (Simmons 1985). As one interviewee mentioned:

[The return plan is] not in the foreseen future ... I have been here [in the United States] for too long. There are a lot of things out there that I am not familiar with, especially those in China ... If I go back, that means I need

to abandon all my networks and start over again ... I am over the age to afford to start over. There are too many things I need to consider besides my own career. I know life here might be tedious, but at least it is stable (4FH13).

Thus, at the first-term H-1B stage, migrants intend to temporarily stay in the United States and postpone their return plans until they obtain their permanent legal status, although some have strong return intentions and return plans in the long term. Such declined return intentions and strategically delayed return plans are influenced by migrants' individual career strategies in the short term and the social and political factors from the United States in migrants' long-term career development. When associated with migrants' lack of knowledge on China's side, factors from both China and the United States altogether influence migrants' limited return-migration behaviors at this stage. Hence, based on the empirical result of H-1B visa holders, it is sound to project that the longer migrants stay at the H-1B stage, the more attachments they have in the United States, the more contextual factors will be involved in the decision-making process, and the harder decision they will make for their return migration behaviors. From the five returnees who returned during their first-term H-1B period, one returned due to family reunification, and the rest four who returned due to better job opportunities all mentioned they pondered before making the decision to return. It is also noteworthy to suggest that the longer skilled migrants stay in the United States, the more their return plans and return behaviors can be under the impact of gender differences, familial and spousal reasons, which also go beyond their career concerns.

In sum, based on the interview data collected, migrants' return intentions, return plans, and return migrations change throughout their transition period from international

students to skilled migrants. Their return intentions change from being ambivalent as they approach graduation, to being considered as a “Plan B” during the OPT period, to becoming divergent as “not to return” in the short term and “to eventually return” in the long term when migrants are in the first-term H-1B period. Such shifts in return intentions directly shape migrants’ return plans, from being flexible, to being postponed, and to eventually becoming divergent at different stages of the transition period. Similar to the perspectives from migration psychology, migrants’ return behaviors can be viewed as a result of their return plans when they are approaching graduation. Yet during OPT periods, their return migration behaviors are largely different from their return plans, reflected in their involuntary returns for example. When migrants become first-term H-1B visa holders, they are less likely to return home despite their divergent return plans.

It is also noteworthy to mention that, not all of the interviewees in this study show strong return migration intention. In fact, one out of seven interviewees at F1 approaching graduation stage stated that he would not consider return migration in the foreseen future. Such rejection of return migration plan at early stage of the transition period might largely due to the migrant holding strong out-migration intention when he first arrived the United States.

4.4. Summary of Findings

By examining the return intentions, return plans, and return behaviors of Chinese student migrants at three different stages of the transition period, the findings of this chapter suggest a dynamic return migration decision-making process for Chinese student and skilled migrants in the United States. Chinese student migrants initially hold blurry

return intentions when they first arrive in the United States. Through their frequent transnational activities during their programs of study, their perceptions and knowledge about both countries become clearer. As they approach graduation, their return intentions have changed from overwhelmingly depending on China's pull factors, to being an outcome of both pull factors from China, such as sudden job opportunities and family concerns, and push factors from the United States such as their worries of "fitting in" the US society. Moreover, migrants' ambivalent return intentions associated with their concerns on limited US job opportunities for them stimulate their immediate return migration behaviors at this stage.

When international students transfer to the OPT program, their transnational activities are limited and they intend to temporarily stay in the United States due to their vulnerability to the social and political contexts of both countries and their fear for taking the risk of terminating their OPT period by traveling outside the country. At this stage, their return intentions are greatly shaped by the social and political forces of both China and the United States, specifically in the form of pull factors from the United States on the OPT program and the push factors from China due to their devalued foreign credentials in Chinese job market. Thus, migrants' return intentions decline and their return plans are postponed until the end of the OPT period. At the OPT stage, migrants' return behaviors are also due to involuntary returns caused by migrants' losing, or their fears of losing, legal status.

When migrants successfully transition to the first-term H-1B period, their return intentions and return plans become divergent: Their short-term return intentions are at a low level as a result of their personal career plans, yet they still hold strong return

intentions in the long term, which involves their considerations of the social, cultural, and political factors from both the United States and China. Such divergent return intentions are largely under the pull factors from the United States in the form of Legal Permanent Residency, as well as the push factors from China due to migrants' fear of lacking social networks in Chinese society. Their short-term career plans don't involve return migration, yet they include return migration in their long-term plans. Similar to their current stage return intentions and plans, first-term H-1B visa holders' return behaviors are limited due to migrants' fear of what is possible after their return instead of what is possibly desirable in China when they make return decisions. As migrants move along their migration stages, the longer they stay in the United States, the stronger pull factors from the US society and push factors from China will impact their return intentions, the lower return intentions they will have, and the more likely they become ambivalent migrants (Senyurekli and Menjivar 2012).

4.5. Policy Implications

This chapter draws attention to a specific time period of international skilled migrants: the transition period from international students to highly skilled labor migrants. This transition period is important for understanding contemporary international skilled migration to the United States because: During this transition period, migrants' roles gradually change from being international students to becoming part of the foreign-born labor force; and migrants directly face the "to return or to stay" decision due to their limited time of valid visa and the strict requirement and long wait for transferring to skilled foreign workers. This chapter examines migrants at different stages

of the transition period and their dynamic decision-making process in conjunction with their shifting immigration status and roles in the United States. It emphasizes the importance of US social and economic contexts (evident in the recent US economic downturn), US immigration policies (such as annual H-1B visa caps and qualifications), and the migrants' home-country situations (economic development and policy implementations) in shaping skilled migrants' movements during the transition period.

The recent US economic downturn has discouraged US employers to hire foreign employees due to extra fees required to hire a foreign employee compared to hiring a domestic worker. Such changes in the US economic context strongly affect migrants' return intentions during the transition period, especially when they approach graduation. Moreover, existing US immigration policies on skilled migrants lack the ability to address their critical issues and greatly discourage potential skilled migrants from staying in the United States and prompt their involuntary return migrations to their home countries, which prevents the United States from retaining such highly skilled migrants in its labor force. The US Citizenship and Immigration Services (USCIS) recently came up with a new proposal on extending skilled migrants' H-1B visa length beyond six years, in order to facilitate skilled migrants' immigration process to the United States (USCIS 2015c). Yet, this chapter reveals that the first and foremost institutional obstacle that keeps skilled international students from staying in the United States after graduation is the low H-1B visa quota and the resulting lottery system which determine migrants' fate by their luck not their professional skills. USCIS's new proposal on extending the legal status for those who already won the lottery may not address all major issues among skilled migrants. Specifically, since 2013, the US annual quota for H-1B visas (85,000

for private industries) has been greatly exceeded by its annual applications (124,000 in 2013; 172,000 in 2014; 232,000 in 2015; USCIS 2013, 2014, 2015a). This indicates that only two-thirds of the applicants in 2012, half of the applicants in 2013, and only one-third of the applicants in 2014 can legally work in the United States according to their career plans. Thus, immigration policies that match skill migrants' needs are in demand in the future. Furthermore, migrant home-country's governmental policies can also influence skilled migrants to return. Such impact can be reflected on the incentive policies that Chinese and Indian governments implement to attract skilled returnees, such as Chinese government's Thousand Talent Plans and regional incentive packages.

In conclusion, this chapter demonstrates that, during the transition period, skilled migrants in the United States have their return intentions and make their return plans in a dynamic fashion. Interview data in this chapter suggests migrants' return intentions become strongest as they approach graduation, weaker at the OPT and first-term H-1B period, and growing again in the following immigration stages. Meanwhile, their return plans become more pragmatic and time-sensitive as they stay in the United States. Yet, such shift of return intentions and return plans cannot always direct migrants' return behaviors during the transition period as many return migrations are largely connected to the social, economic, and political factors of both migrant sending and receiving countries. The fluctuating return migrations of skilled migrants during the transition period indicate a temporary "brain gain" for the United State and a long-term "brain drain" for China. To attract international students to study in US universities, and to retain them in the US labor force post-graduation, creating more favorable immigration

policies for skilled migrants during the transition period is vitally important for policy makers to consider in order to promoting the US competitiveness in the global competition for talent.

Chapter 5: Conclusion

5.1. Summary

Over the past two decades, the economic globalization and internationalization of higher education have enabled an unprecedented volume of migration flows for higher education from developing countries to developed countries, and increasingly in a reverse direction in the form of skilled professionals as well. Specifically, for international students and early-stage skilled migrants, their migration movements, although far from being “footloose”, can be considered as an outcome of a calculated strategy to achieve their career development under different institutional forces and social contexts (Geddie 2013). By analyzing the migration experiences of contemporary Chinese students in the US universities and Chinese skilled migrants in the US and Chinese job markets, this dissertation explores the career experiences and decision-making process for return among migrants at different migration stages— from international students to skilled labor migrants. Particularly, Chapter 3 and Chapter 4 of this dissertation draw special attention to a specific time period relevant to skilled migrants: the transition period from international students to highly skilled migrants.

Chapter 2 investigates the demographic information of the current cohort of Chinese students in the US universities, their return intentions, and reveals a two-way migration flow of skilled migrants between China and the United States. As a result of China’s recent economic development and the growing number of middle-class families, the out-migration flow of Chinese students studying at US universities has been rapidly increasing in the past decade. The mindsets of the current cohort of Chinese students,

different from previous Chinese migrant expatriates (Zweig 1999), have also changed in regard to their return plans after their graduation. Student migrants' return intentions have skyrocketed over the past decade due to China's booming economy as well as to the specific demographic profile of current Chinese overseas students. In fact, a two-way migration flow of Chinese highly skilled migrants has emerged between China and the United States, suggesting a possible future brain circulation. In this situation, both the migrant-home country (China) and the receiving country (the United States) can eventually benefit from this two-way migration movements: Chinese students come to the United States for its international reputation in the higher education sector, obtain educational attainment with their own funds from their home countries, and contribute to the regional economies; when finishing their programs of study, Chinese students can return to China as skilled returnees and contribute to China's economic development with their professional skills obtained from their overseas studies. Such migration experiences of Chinese international students in the United States can represent a future win-win situation between newly emerged economies in the Global South and the popular migrant-receiving countries in the Global North. Yet, due to the relatively smaller volume of return migration compared to the one of out-migration current two-way migration movements between China and the United States exhibit a short-term brain gain to the United States and a short-term brain drain to China.

Moreover, such two-way migration of the highly skilled not only involves stakeholders such as migrants and their families, but is also greatly contingent to the social, economic, and political contexts of both migrant-sending and -receiving countries. The decision-making process for skilled migrants is also a calculated yet dynamic

process, which incorporates migrants' life and career plans not only based on their human capital level, but also on the institutional factors during their migration experiences.

Thus, Chapter 3—from the perspective of human capital, social capital, and cultural capital at meso level—and Chapter 4—from the approach of migration psychology at micro level—both analyze how individual factors and institutional factors influence skilled migrants' experiences in the receiving and home countries and further impact their decision-making process for return. They also pay attention on the specific time period of skilled migrants: the transition period from international students to skilled migrants.

Specifically, Chapter 3 analyzes migrants' social and cultural capital advantages and constraints, as a manifest of the institutional and structural forces, at different stages during the transition period. Skilled migrants in the transition period change their legal statuses through different migrant programs and change their roles in the job market under different social and cultural constraints. This prompts migrants to develop their human capital, social capital, and cultural capital differently at each stage of the transition period in response to the career obstacles they face in the job market. To accumulate their human capital, social capital, and cultural capital, skilled migrants also adopt different strategies in their receiving country, the United States, while seeking career opportunities in their home country, China. This chapter demonstrates the importance of social and cultural capitals in measuring the economic outcome of highly skilled migrants' human capital under different societal contexts, and role of migrants' capital transferability in determining their return migration movements at nation-state level and location choices at local level.

Adopting the perspectives from migration psychology, Chapter 4 of this dissertation specifically distinguishes the return intentions, return plans, and return behaviors of Chinese migrants at different stages of the transition period. The findings suggest a dynamic return migration decision-making process for Chinese migrants during the transition period in the United States. Chinese students' return intentions change from being blurry when they start their overseas studies to being ambivalent as they approach graduation. Such ambivalent return intentions, combined with their lack of knowledge of the US job market and their transnational ties with China, stimulate their immediate return behaviors upon graduation. At this stage, migrants' return migrations are largely a result of individual level factors such as migrants' own career planning, perceptions, and social networks. When international students transfer to the OPT program, they usually intend to stay in the United States temporarily, in the fear of losing their OPT privilege and thus preventing traveling internationally. Thus, their return intentions can decline and their return plans are often postponed until the end of the OPT period. However, their return behaviors at this stage may also be a result of involuntary returns caused by migrants losing their legal status. At this stage, many return migrations are shaped by institutional factors instead of by migrants' individual characteristics and plans. Last but not the least, when migrants successfully transition to the last stage of the transition period—the first-term H-1B period—their return intentions and return plans become divergent. Their short-term return intentions are lower than the ones in the long term. Their short-term career plans are largely for the purpose of personal career advancement and do not involve return migration, but considering return migration is part of their long-term plans. Similar to their short-term return intentions and plans, first-term H-1B visa

holders' return behaviors are limited when they make their return decisions at the current stage, as a result of their fear of what is possible after their return instead of what is desirable in China. Such contradictory return-plans and return-behaviors reflect a similar "longing to return" case as Senyurekli and Menjivar (2012) indicates.

5.2. Significance and Policy Implications

By analyzing the migration movements, career experiences, and decision-making processes of Chinese international students and early-stage skilled migrants in the United States, this dissertation contributes to the existing literature on return migration of highly skilled migrants from three different perspectives: under the framework of migration and development in Chapter 2, of human capital, social capital, and cultural capital in Chapter 3, and of the migration psychology perspectives in Chapter 4.

Previous approaches on international skilled migration focus on how migrants' demographic characteristics, their immigration backgrounds, and the contextual forces between their home and receiving countries stimulate or discourage the migration movements of skilled migrants, mirrored by research in the neoclassical economics, the new economics of labor migration, the structural approach, the social network theory, and the framework of transnationalism (Cerese 1974; De Coulon and Piracha 2005; Portes, Guarnizo, and Landolt 1999; Stark 1996; Thomas-Hope 1999; Todaro 1969). Yet, an increasing proportion of skilled migrants in popular migrant-receiving countries are former international students (Findlay 2011; King and Raghuram 2013; Suter and Jandl 2008). When finishing their studies in the receiving countries, these skilled migrants not only face the challenge to adjust their roles from being students to being part of the labor

force, but also face the pressure to transfer their immigration status and make important future life and career decisions in a given length of time (in many popular migrant receiving countries such as Canada, Australia, and the United States). Such distinct characteristics of skilled migrants in the transition period, different from migrants in other categories in the transition period, result in the decision-making of their return migration a more dynamic and delicate process. Moreover, skilled migrants' human capital level, which is presumably considered to offer them higher mobility (mirrored on migrant selection theory; Stark and Blackwell 1991), is far from the sole determinant in affecting their migration movements during the transition period. Thus, by introducing the perspectives from the framework of social capital and cultural capital, and the ones from migration psychology, this dissertation analyzes a specific migration activity (return migration) at a specific migration stage (the transition period from international students to skilled migrants) of highly skilled migration from different angles. Moreover, it also provides broader impact beyond Chinese students per se, and beyond student migrants per se. Specifically, the experience of Chinese skilled migrants can be applied to migrant experiences in some other countries of origin as well. One major reason for migrants' constant negotiation of return during the transition period is due to the economic development in their home country China whose society provides both policy incentives and bonus social and cultural capital for skilled returnees from the United States. This context can be shared with many other developing countries, such as India, who are experiencing an economic transition and whose governments are currently actively recruiting skilled returnees. The experience of the United States as a receiving country and a temporary "brain gainer" can also be shared with many popular skilled migrant

receiving countries that have immigration path open for skilled migrants (see Table 1). In addition, this dissertation's findings are also beyond student migrants per se. Although holding relatively high human capital level, Chinese skilled migrants' movements are far from being footloose, but their experiences during the transition period are greatly shared with that of asylum seekers—being vulnerable to structural and institutional force. Their fluctuating return intentions and mismatch between return intentions and return migration behaviors, which are similar to that of other classes of migrants, also reveal that the human capital level alone is not sufficient to separate skilled migrants from other migrant classes. In fact, during the transition period, skilled migrants' experiences exhibit some similarities with other migrant classes.

Empirically, this dissertation bridges the gaps between two bodies of existing literature on student migrants and highly skilled migrants, by providing a case study of skilled migrants during the transition period between a popular migrant-sending country and a popular migrant-receiving country. Specifically, previous studies on highly skilled migrants mainly focus on those who hold temporary work visas in receiving country's job market, such as H-1B visa holders in the United States (Liu-Farrer 2009; Reitz 2001; Saxenian 1999; Stark 1996). Yet, skilled migrants are a diverse population, not only by their countries of origin—which can result in migrants' different transnational travels and LPR waiting period—but also by their various immigration categories which largely shape their career experiences in the receiving countries. In fact, in the case of the United States, in addition to H-1B visa holders, there are also skilled migrants who are still enrolled in their programs of study, such as F1 students during the CPT period and graduates who are during their OPT period. These migrants, different from H-1B visa

holders, participate in the job market while also being particularly vulnerable to social contexts such as immigration policy changes in the United States. Moreover, research on student migrants constantly reveals the increasing return migration intention among international students (Li, Findlay, and Skeldon 1996; Lu and Zong 2008; Peralta-Nash 2003; Simpson and Tan 2008). Yet, when students graduate from their programs of study, their migration intentions could be under the impacts of different contextual forces that generate different return migration behaviors.

The above contrast and mismatch of the literature and empirical studies leave the gaps that this dissertation's findings aim to fill. Its results also provide immigration policy implications to better understand the mentalities, experiences, and migration movements of this potential global high skilled labor force:

First of all, immigration policies on highly skilled migrants need to be more specific in regards to migrants' countries of origin and their fields of study. President Obama addressed the United States' needs to attract young scientists and engineers on US campuses and to retain them after their graduation (2013), and specific favorable OPT policies on extended length of stay are available for STEM field international students. Yet, among these desirable skilled foreign-born migrants in the United States, a large share of them are migrants from China and India, the two nations with the largest populations in the world and two rapidly growing economies in the Global South. The large migrant population results in their long wait for green cards in the United States, because US government adopts a per country limit policy for immigration which requires no single country's maximum number of family-sponsored and employment-based preference LPRs from any country in a fiscal year can exceed 7% of the total worldwide

category limits (USCIS 2016). Thus, the more migrants from a single country apply for green cards, the longer they need to wait for their petition for LPRs in the United States to be processed. In addition, the development of these two countries facilitates more economic opportunities for skilled professionals and governmental policy incentives to attract skilled returnees. Thus, the context of the leading origin countries of skilled migrants in the United States can stimulate the return migration of this highly skilled population, creating a “brain drain” for the United States.

Secondly, throughout the transition period, migrants’ return migrations at a specific time frame, the OPT stage, are under the strongest influence of the institutional and structural factors in the United States and China, rather than of their own return intentions. Because migrants’ immediate priority at OPT stage is to secure their legal status, their migration movements thus can be highly impacted by immigration policy incentives or discouragement. To retain such highly skilled professionals to the labor force, the US and China governments could implement favorable policies specifically targeting skilled migrants at OPT stage (e.g. extending OPT period on the US side, or providing incentive programs for fresh graduates on China side) to enhance their human capital accumulation.

Thirdly, the fluctuating return migration flows of skilled migrants during the transition period indicate a temporary “win” for the United States and a long-term “win” for China. In order to sustain a “brain gain” for the United States, policies facilitating skilled migrants to stay should be implemented during the transition period, in order to help the United States stay competitive in the global competition for talent. Such policies

are not only confined within immigration policies, but also can extend to policies in the job market regarding hiring skilled migrant workers.

5.3 Limitations and Future Research

This dissertation takes the case study of Chinese skilled migrants during the transition period in the United States to analyze the bigger picture of the return migration of skilled migrants from the receiving countries to home countries. Albeit its findings suggest theoretical contributions and empirical examples to the existing scholarship, limitations remain in this dissertation. First of all, this dissertation is based on 47 in-depth interviews from seven migrant groups by their migration stage, with each group separated by migrants' gender and fields of study. As a result, the number of interviewees in a single category is very small, which cannot be generalized at current stage of this dissertation. In order to obtain more systematic and generalizable result of Chinese students during the transition period, an extended research project in size is needed. Secondly, this dissertation only focuses on Chinese graduate students in the United States or skilled migrants holding a postgraduate degree from US universities, excluding Chinese students at the undergraduate level due to their possibility to pursue graduate studies instead of entering the job market. Yet, Chinese students at the undergraduate level compose 42 percent of all Chinese student population in the United States, whose economic contribution during their programs of study can be important to regional economies in the United States. Thirdly, its empirical studies on the US side only takes migrants from four US public universities (one on the east coast, one in the Midwest region, one in the southwest region, and one on the west coast) as an example. Open

Doors Report (2015), although lacks of specific data on Chinese graduate students, shows a general ranking of hosting institutions for international students that reflects students migrants not only concentrate in major public universities, such as Arizona State University (rank no.4) and University of Illinois- Urbana Champaign (rank no.5), but also favor prestigious private universities, such as New York University (rank no.1) and University of Southern California (rank no.2). A systematic and comprehensive study on Chinese student migrants' experiences from all institution types, including public universities, private universities, and community colleges, will be in need in the future. Lastly, this dissertation, adopting the framework of human capital, social capital, and cultural capital, and the perspectives of migration psychology on the three stages of migration decision-making process, largely examines impact of migrants' career development in influencing their migration experiences and return migrations. Due to the distinct demographic and socioeconomic profile of contemporary Chinese skilled migrants during transition period in the United States, the impact of gender differences, marital statuses, and age differences was not fully examined at the current stage of this dissertation, but will be included into the future analysis of migrants at the following migration stages.

In addition to the above limitations of this dissertation, there is also room for future improvement. First of all, due to the limited time frame of this dissertation, snapshot interview data at different stages of the transition period were collected to reflect the Chinese migrant experiences throughout their transition period. Longitudinal data with one specific sample population can be collected in future research projects. This could systematically reveal the dynamic changes in migrants' development of human

capital, social capital, and cultural capital, as well as their changing return intentions, return plans, and return migration behaviors. Secondly, this dissertation investigates migrants from a specific origin country (China) and in a specific receiving country (the United States). China and the United States are among the largest economies in the world and the largest migrant-home and -receiving countries in the world. While this study can generate useful examples for immigration studies on skilled migration between Global North and Global South, research on migration movements and migrant career experiences among other migrant-sending and -receiving countries is also worth to investigate. Particularly, research on skilled migration between popular migrant-sending countries and non-traditional migrant-receiving countries (such as Japan and South Korea) also calls for future scholarly attention, because these non-traditional receiving countries often face skilled labor shortage due to their ageing population structures yet their governmental policies on skilled immigration are lagged behind of their labor market needs. As skilled migrants' movement is highly contingent to the specific immigration policies during the transition period, investigating skilled migrants' experience in non-traditional migrant-receiving countries' job markets as well as their return migrations can reveal the impact of receiving countries' policy on shaping the global landscape of skilled migration and can suggest possible implications for developed countries to retain such global talent.

REFERENCES

- Ackers, Louise. 2004. Managing relationships in peripatetic careers: Scientific mobility in the European Union. In *Women's Studies International Forum*, 27(3): 189-201.
- Adams, Walter, ed. 1968. *The Brain Drain*. New York: Macmillan.
- Ajzen, Icek, and Martin Fishbein. 1980. Understanding Attitudes and Predicting Social Behaviour. Englewood Cliffs, NJ: Prentice-Hall.
- Akresh, Ilana Redstone. 2008. Occupational trajectories of legal US immigrants: Downgrading and recovery. *Population and Development Review*, 34(3): 435-456.
- Alberts, Heike, and Helen Hazen. 2005. 'There are always two voices...' international students' intentions to stay in the United States or return to their home countries. *International Migration* 43(3): 131-154.
- Alberts, Heike. 2007. Beyond the headlines: changing patterns in international student enrollment in the United States. *GeoJournal* 68:141-153.
- Alt, Jörg and Norbert Cyrus. 2002. Illegal Migration in Deutschland. In Klaus J. Bade and Rainer Münz eds, *Migrations Report 2002*. pp.141-162. Frankfurt: Campus.
- Altbach, Philip G. 1991. Impact and adjustment: Foreign students in comparative perspective. *Higher Education* 21(3): 305- 323.
- Aure, Marit. 2013. Highly skilled dependent migrants entering the labour market: Gender and place in skill transfer. *Geoforum* 45: 275-284.
- Bagchi, Ann D. 2001. Migrant networks and the immigrant professional: An analysis of the role of weak ties. *Population Research and Policy Review* 20(1-2): 9-31.
- Baghwati, Jagdish N. and Martin Partington. 1976. Taxing the brain drain: A proposal. *Challenge* 19(3):34-38.
- Banerjee, Payal. 2006. Indian information technology workers in the United States: The H-1B visa, flexible production, and the racialization of labor. *Critical Sociology*, 32(2): 425-445.
- Bankston, Carl L. 2004. Social capital, cultural values, immigration, and academic achievement: The host country context and contradictory consequences. *Sociology of Education* 77(2): 176-179.
- Basran, Gurcharn S. and Li Zong. 1998. Devaluation of foreign credentials as perceived by visible minority professional immigrants. *Canadian Ethnic Studies* 30 (3): 6-23.

- Bauder, Harald and Emilie Cameron. *Cultural barriers to labour market integration: Immigrants from South Asia and the former Yugoslavia*. Research on Immigration and Integration in the Metropolis, 2002.
- Bauder, Harald. 2005. Habitus, rules of the labour market and employment strategies of immigrants in Vancouver, Canada. *Social & Cultural Geography*, 6(1): 81-97.
- Becker, Gary S. 2009. *Human capital: A theoretical and empirical analysis, with special reference to education*. Chicago: University of Chicago Press.
- Beine, Michael, Frederic Docquier, and Hillel Rapoport. 2001. Brain drain and economic growth: Theory and evidence. *Journal of Development Economics* 64(1): 275-89.
- Beine, Michel, Frederic Docquier, and Hillel Rapoport. 2008. Brain drain and human capital formation in developing countries: Winners and losers. *The Economic Journal* 118(528): 631-652.
- Bhagwati, Jagdish and Koichi Hamada. 1974. The brain drain, international integration of markets for professionals and unemployment: a theoretical analysis. *Journal of Development Economics* 1(1): 19-42.
- Bian, Yanjie, Xiaoling Shu and John R. Logan. 2001. Communist party membership and regime dynamics in china," *Social Forces* 79 (3): 805-841.
- Biao, Xiang. 2005. Promoting knowledge exchange through diaspora networks (The case of People's Republic of China). *Centre on Migration, Policy and Society (COMPAS)*. <http://www.adb.org/Documents/Reports/GCF/reta6117-prc.pdf>
- Blitz, Brad. 2005. Brain circulation: The spanish medical profession and international recruitment in the United Kingdom." *Journal of European Social Policy* 15(4):363-79.
- Borjas, George J. 1989. Economic theory and international migration. *International Migration Review* 23(3): 457-485.
- Borjas, George J. and Bernt Bratsberg. 1994. *Who leaves? The outmigration of the foreign-born*. No.w4913. National Bureau of Economic Research, 1994.
- Bourdieu, Pierre. 1986. The forms of capital. In *Handbook of theory and research for the sociology of education*. ed. Richardson, John G. New York: Greenwood Press. pp. 241-258.
- Bourdieu, Pierre. 1998. *The state nobility: elite schools in the field of power*. Stanford University Press.

- Boyd, Monica, and Derrick Thomas. 2001. Match or mismatch? The employment of immigrant engineers in Canada's labor force. *Population Research and Policy Review* 20(1-2): 107-133.
- Boyd, Monica. 1990. Immigrant women: language, socioeconomic inequalities, and policy issues. In *Ethnic Demography: Canadian Immigrant, Racial, and Cultural Variations*. eds. Halli, Shiva. Ottawa: Carleton University Press. pp.275–96.
- Bratsberg, Bernt and James F. Ragan Jr. 2002. The impact of host-country schooling on earnings: a study of male immigrants in the United States. *Journal of Human Resources* 37(1): 63-105.
- Breinbauer, Andreas. 2007. Brain drain- brain circulation or... what else happens or should happen to the brains some aspects of qualified person mobility/migration. IDEAS of Federal Reserve Bank of St. Louis, FIW Working Paper. No.4.
- Brown, Phillip. 1995. Cultural capital and social exclusion: some observations on recent trends in education, employment and the labour market. *Work, Employment & Society* 9(1): 29-51.
- Canache, Damarys, Matthew Hayes, Jeffery J. Mondak, and Sergio C. Wals. 2013. Openness, extraversion and the intention to emigrate. *Journal of Research in Personality* 47(4): 351-355.
- Cao, Xiaonan. 1996. Debating 'brain drain' in the context of globalisation. *Compare: A Journal of Comparative and International Education* 26(3): 269-85.
- Carr, Stuart C., Kerr Inkson, and Kaye Thorn. 2005. From global careers to talent flow: Reinterpreting 'brain drain'. *Journal of World Business* 40(4): 386-398.
- Casey, Edward S. 2001. Between geography and philosophy: what does it mean to be in the place-world?. *Annals of the Association of American Geographers* 91(4): 683-693.
- Cassarino, Jean-Pierre. 2004. Theorising return migration: The conceptual approach to return migrants revisited. *International Journal on Multicultural Societies*, 6(2): 253-279.
- Cerese, Francesco P. 1974. Expectations and reality: a case study of return migration from the United States to Southern Italy. *International migration review* 8(2): 245-262.
- Chacko, Elizabeth. 2007. From brain drain to brain gain: Reverse migration to bangalore and hyderabad, india's globalizing high tech cities. *GeoJournal* 68:131-40.

- Chaloff, Jonathan and Georges Lemaitre. 2009. Managing highly-skilled labor migration: a comparative analysis of migration policies and challenges in OECD countries. OECD Social, Employment and Migration Working Papers no.79. OECD.
- Chen, Tse-Mei, and George A. Barnett. 2000. Research on international student flows from a macro perspective: A network analysis of 1985, 1989 and 1995. *Higher Education* 39(4): 435-453.
- Chen, Yun-Chung. 2007. The limits of brain circulation: Chinese returnees and technological development in Beijing. <http://www.cctr.ust.hk/articles/pdf/WorkingPaper15.pdf> (accessed September 10th, 2015)
- Cheng, Lucie, and Philip Q. Yang. 1998. Global interaction, global inequality, and migration of the highly trained to the United States. *International Migration Review* 32(3): 626-653.
- Chinese Service Center for Scholarly Exchange. 2011. Open policies stimulate returning trend of oversea students: highly-skilled returnees contribute to china's innovation. in Chinese August 31, 2011. URL: <http://www.cscse.edu.cn/publish/portal0/tab141/info14258.htm> (accessed May 31, 2012)_
- Chiswick, Barry R. 1978. The effect of Americanization on the earnings of foreign-born men. *The Journal of Political Economy* 86(5): 897-921.
- Chiswick, Barry R. 2008. The economics of language: an introduction and overview. Available at SSRN 1155862.
- Coleman, James S. 1989. *Social capital in the creation of human capital*. University of Chicago Press.
- Collins, Francis Leo. 2009. Connecting 'home' with 'here': personal homepages in everyday transnational lives. *Journal of Ethnic and Migration Studies*, 35(6): 839-859.
- Commander, Simon, Kangasniemi, Mari, and L. Alan Winters. "The Brain Drain: Curse or Boon? A Survey of the Literature." in *Challenges to Globalization*, edited by Baldwin, Robert and L. Alan Winters. 235-72. Chicago: University of Chicago Press, 2004.
- Constant, Amelie F., Annabelle Krause, Ulf Rinne, and Klaus F. Zimmermann. 2010. *Reservation Wages of First and Second Generation Migrants*. No. 5396. Discussion paper series.

- Constant, Amelie, and Douglas S. Massey. 2002. Return migration by German guestworkers: Neoclassical versus new economic theories. *International Migration* 40(4): 5-38.
- Creswell, John W. and Dana L. Miller. 2000. Determining validity in qualitative inquiry. *Theory Into Practice* 39(3): 124-130.
- Daugeliene, Rasa and Rita Marcinkeviciene. 2009. Brain circulation: Theoretical considerations, *Inzinerine Ekonomika-Engineering Economics* 63: 49-57.
- Daugėlienė, Rasa. 2007. The position of knowledge workers in knowledge-based economy: Migration aspect." *European Integration Studies* 1: 103-112.
- Dayton-Johnson, Jeff, Louka T. Katseli, Gregory Maniatis, Rainer Münz, and Demetrios Papademetriou. 2007. *Gaining from migration: Towards a new mobility system*. OECD.
- de Coulon, A., and Piracha, M. 2005. Self-selection and the performance of return migrants: The source country perspective. *Journal of Population Economics*, 18: 779–807.
- de Haas, Hein. 2010. Migration and development: a theoretical perspective. *International Migration Review*. 44(1): 227-264.
- de Haas, Hein and Tineke Fokkema. 2011. The effects of integration and transnational ties on international return migration intentions. *Demographic Research* 25:756-78.
- Department of Homeland Security. 2015. Title 8 of Code of Federal Regulations Part 214. (8 CFR. 214.2(h)(10). Last accessed January 10, 2016.
<http://www.uscis.gov/iframe/ilink/docView/SLB/HTML/SLB/0-0-0-1/0-0-0-11261/0-0-0-17197/0-0-0-18684.html>
- Department of Homeland Security. 2010. Policy Guidance for Student and Exchange Visitor Program and Designated School Officials of SEVP-Certified Schools with F-1 Students Eligible for or Pursuing Post-Completion Optional Practical Training, 2010. Last accessed October 27, 2015.
https://www.ice.gov/doclib/sevis/pdf/opt_policy_guidance_042010.pdf
- Department of Homeland Security, Yearbook of Immigration Statistics,1996-2013. Last accessed January 10, 2016.
<http://www.dhs.gov/files/statistics/publications/yearbook.shtm>.
- Dossani, Rafiq, and Ashish Kumar. 2011. Network associations and professional growth among engineers from India and China in Silicon Valley. *American Behavioral Scientist* 55(7): 941-969.

- Dossani, Rafiq. 2002. *Chinese and Indian engineers and their networks in Silicon Valley* (Working paper). Stanford, CA: Stanford University, Asia-Pacific Research Center.
- Du, Yuping, Wang, Huiyao, and Yan Luo. 2009. The causal factors of chinese returnees: Statistics and analysis. in *The Report on The Development of Chinese Overseas Educated Talents*, ed. Huiyao Wang. Beijing: China Machine Press. pp. 257-78.
- Duncan, Natasha T., and Brigitte S. Waldorf. 2010. High skilled immigrant recruitment and the global economic crisis: the effects of immigration policies. *Department of Agricultural Economics, Purdue University. Working Paper 10-1.*
- Dustmann, Christian, and Yoram Weiss. 2007. Return migration: theory and empirical evidence from the UK. *British Journal of Industrial Relations*, 45(2), 236-256.
- Dustmann, Christian, Itzhak Fadlon, and Yoram Weiss. 2001. Return migration, human capital accumulation and the brain drain. *Journal of Development Economics* 95(1): 58-67.
- Dustmann, Christian. 2003. Children and return migration. *Journal of Population Economics* 16: 815–830.
- Ewers, Michael C., and Joseph M. Lewis. 2008. Risk and the securitisation of student migration to the United States. *Tijdschrift voor economische en sociale geografie* 99 (4): 470-482.
- Fawcett, James T. 1985. Migration psychology: New behavioral models. *Population and Environment* 8(1-2): 5-14.
- Findlay, Allan M. 2011. An assessment of supply and demand-side theorizations of international student mobility. *International Migration* 49: 162–190.
- Findlay, Allan M., Russell King, Fiona M. Smith, Alistair Geddes, and Ronald Skeldon. 2012. World class? An investigation of globalisation, difference and international student mobility." *Transactions of the Institute of British Geographers* 37(1): 118-131.
- Findlay, Allan. 2002. From brain exchange to brain gain: Policy implications for the uk of recent trends in skilled migration from developing countries." In *International Migration Papers No. 43.*
- Finn, Michael G. 2003. *Stay rates of foreign doctorate recipients from US universities, 2001.* Oak Ridge: Oak Ridge Institute for Science and Education.
- Galor, Oded, and Oded Stark. 1991. The probability of return migration, migrants' work effort, and migrants' performance. *Journal of Development Economics*, 35(2): 399-405.

- Gatchair, Sonia. 2013. Race/ethnicity and education effects on employment in high technology industries and occupations in the US, 1992–2002. *The Review of Black Political Economy* 40(4): 357-370.
- Geddie, Kate. 2013. The transnational ties that bind: relationship considerations for graduating international science and engineering research students. *Population, Space and Place*, 19(2):196-208.
- Gibson, Alex and Sheena Asthana. 2000. Local markets and the polarization of public sector schools in England and Wales. *Transactions of the Institute of British Geographers* 25(3): 303-319.
- Gibson, John and David McKenzie. 2011. The microeconomic determinants of emigration and return migration of the best and brightest: Evidence from the Pacific. *Journal of Development Economics* 95(1): 18-29.
- Gmelch, George. 1980. Return migration, *Annual Review of Anthropology* 9: 135-59.
- Goldsmith and Allan J Beegle. 1962. The initial phase of voluntary migration, *Rural Sociology Studies* 1.
- Gordon, Milton M. 1964. *Assimilation in American life: The role of race, religion and national origins*. Oxford University Press.
- Gozalie, Handy. 2002. *Immigrants' earnings and assimilation in Canada's labour market: The case of overachievers*, Research on Immigration and Integration in the Metropolis Working Paper Series #02–11.
- Gudykunst, William B., and Young Yun Kim. 1984. *Communicating with strangers: An approach to intercultural communication*. New York: Random House.
- Güngör, Nil Demet, and Aysıt Tansel. 2008. Brain drain from Turkey: an investigation of students' return intentions. *Applied Economics*, 40 (23): 3069-3087.
- Guo, Shibao, and Zenobia Jamal. 2007. Nurturing cultural diversity in higher education: A critical review of selected models. *Canadian Journal of Higher Education* 37(3):27-49.
- Hagan, Jacqueline, and Susana McCollom. 1999. Skill level and employer use of foreign specialty workers. In *Foreign temporary workers in America: Policies that benefit the US economy*, eds. Lindsay Lowell Greenwood Publishing Group. pp. 149-170.
- Hall, Peter V., and Amir J. Khan. 2008. Differences in Hi-tech Immigrant Earnings and Wages Across Canadian Cities, *The Canadian Geographer/Le Géographe canadien* 52 (3): 271- 290.

- Hawthorne, Lesleyanne. 2010. How valuable is “two-step migration”? Labor market outcomes for international student migrants to Australia. *Asian and Pacific Migration Journal*, 19(1): 5-36.
- Hayhoe, Ruth, and Y. L. Sun. 1989. China's scholars returned from abroad: A view from Shanghai, parts one and two. *China Exchange News* 17 (3-4).
- Hazen, Helen, and Heike Alberts. 2006. Visitors or immigrants? International students in the United States. *Population, Space and Place* 12: 201-216.
- Heinz, Walter R. (1991). Status passages, social risks and the life course. A conceptual framework. In Walter R. Heinz edited, *Theoretical Advances in Life Course Research*, pp.9-22. Weinheim: Deutscher Studienverlag.
- Hiebert, Daniel. 1999. Local geographies of labor market segmentation: Montréal, Toronto, and Vancouver, 1991. *Economic Geography* 75(4): 339-369.
- Institute of International Education (IIE). 2011-2015. *Open Doors Report on International Educational Exchange*. Last access January 10 <http://www.iie.org/opendoors>
- Institute of International Education. 2001-2011. *Open Doors Report on International Students: Academic Level and Place of Origin*. Last access January 10 <http://www.iie.org/Research-and-Publications/Open-Doors/Data/International-Students/By-Academic-Level-and-Place-of-Origin>
- Institute of International Education 2011b. *Open Doors Report on International Students: Leading Places of Origin*. Last accessed May 31, 2012 <http://www.iie.org/Research-and-Publications/Open-Doors/Data/International-Students/Leading-Places-of-Origin/2009-11>
- Institute of International Education. 2011a. *International Student Enrollment Survey*. Last accessed October 27, 2012. http://www.iie.org/Who-We-Are/News-and-Events/Press-Center/Press-Releases/2011/~/_media/Files/Corporate/Open-Doors/Special-Reports/Fall-Survey-Intl-Students-2011.ashx
- Jasso, Guillermina, and Mark R. Rosenzweig. 1988. How well do US immigrants do? Vintage effects emigration selectivity and occupational mobility. *Research in Human Capital and Development* (1988): 229-53.
- Johnson, Jean M. and Marc C. Regets. 1998. International mobility of scientists and engineers to the united states - brain drain or brain circulation? 10th Issue Brief 1998. NSF, Division of Sciences Resources Studies: www.nsf.gov/sbe/srs/issuebrf/sib98316.htm.
- Jokela, Markus. Personality predicts migration within and between US states. *Journal of Research in Personality* 43:79-83.

- Kapur, Devesh, John McHale, and John Francis McHale. 2005. *Give Us Your Best and Brightest: The Global Hunt for Talent And its Impact on The Developing World*. Brookings Institute Press.
- Kemp, Steven, Gary Madden, and Michael Simpson. 1998. Emerging Australian education markets: A discrete choice model of Taiwanese and Indonesian student intended study destination. *Education Economics* 6(2): 159-169.
- King, A. Strachan, and J. Mortimer, Gastarbeiter. 1986. Go home: Return migration and economic change in the Italian Mezzogiorno, In *Return Migration and Regional Economic Problems* ed. King. Russell. London: Croom Helm, pp. 38–68.
- King, Russell, Alan Strachan, and Jill Mortimer. 1985. The urban dimension of European return migration: The case of Bari, Southern Italy. *Urban Studies*, 22: 214–35.
- King, Russell, and Parvati Raghuram. 2013. International student migration: mapping the field and new research agendas. *Population, Space and Place*, 19(2): 127-137.
- Kuypers, Christiane, and Eng Fong Pang. 2006. *Competing for global talent*. International Labour Organization.
- Kuznetsov, Yevgeny. 2006. Diaspora networks and the international migration of skills: How countries can draw on their talent abroad. Washington, DC: The International Bank for Reconstruction and Development. The World Bank.
- Le, Thanh. 2008. Brain drain or brain circulation: Evidence from OECD's international migration and R&D spillovers. *Scottish Journal of Political Economy* 55(5):618-36.
- Lee, Jenny J., and Dongbin Kim. 2010. Brain gain or brain circulation? U.S. doctoral recipients returning to South Korea. *Higher Education* 59: 627-643.
- Leigh, Andrew K., and Robert D. Putnam. 2002. Reviving community: what policy-makers can do to build social capital in Britain and America. *Renewal London* 10(2): 15-20.
- Levy, René. 1991. Status passages as critical life course transitions. In Walter R. Heinz edited *Theoretical advances in life course research*, pp.87-114. Deutscher Studienverlag: Weinheim.
- Lewin, Tamar. 2008. Matching newcomer to college, while both pay. *The New York Times*, May 11, 2008
<http://www.nytimes.com/2008/05/11/education/1agents.html?ref=todayspaper>
 (accessed October 27, 2013)
- Li, A. Findlay, A. Jowett, and R. Skeldon. 1996. Migrating to learn and learning to migrate: a study of the experiences and intentions of international student migrants *International Journal of Population Geography* 2: 51 -67.

- Li, Wei, and Lucia Lo. 2015. Financing immigrant small businesses in Canada and the United States, in *The Housing and Economic Experiences of Immigrants in U.S. and Canadian Cities*, eds. Carlos Teixeira and Wei Li. University of Toronto Press. pp.328-354.
- Li, Wei and Edward Park, “Asian Americans in Silicon Valley: High Technology Industry Development and Community Transformation.” In *From Urban Enclave to Ethnic Suburb: New Asian Communities in Pacific Rim Countries*, ed Wei Li (Honolulu, HI: University of Hawaii Press, 2006).
- Li, Wei and Wan Yu. 2012. Between China and the United States contemporary policies and flows of highly skilled migrants. *AAPI Nexus: Asian Americans & Pacific Islanders Policy, Practice and Community* 10(1):1-20.
- Liu-Farrer, Gracia. 2009. Educationally channeled international labor mobility: Contemporary student migration from China to Japan. *International Migration Review* 43(1): 178-204.
- Lowell, B. Lindsay, and Alan Findlay. 2002. *Migration of highly skilled persons from developing countries: impact and policy responses: Synthesis report*. International Migration Papers No. 44. Geneva: International Labour Office.
- Lowell, Lindsay. B., Alan Findlay, and Emma Stewart. 2004. *Brain strain: optimising highly skilled migration from developing countries*. London: Institute for Public Policy Research.
- Lu, Max. 1999. Do people move when they say they will? Inconsistencies in individual migration behavior. *Population and Environment*, 20(5), 467-488.
- Lu, Yixi, Zong, Li, and Bernard Schissel. 2009. To stay or return: Migration intentions of students from People’s Republic of China in Saskatchewan, Canada. *International Migration and Integration* 10: 283–310.
- Mahroum, Sami. 2005. The international policies of brain gain: a review. *Journal of Technology Analysis & Strategic Management* 17(2): 219–30.
- Meyer, Jean-Baptiste, and Mercy Brown. 1999. Scientific diasporas: A new approach to the brain drain. Management of Social Transformation – MOST. Discussion Paper No. 41, Budapest. <http://www.unesco.org/most/meyer.htm>.
- Meyer, Jean-Baptiste. 2001. Network approach versus brain drain: lessons from the diaspora. *International Migration* 39(5): 91-110.
- Mitchell, Katharyne. 1997. Different diasporas and the hype of hybridity. *Environment and Planning D* 15: 533-554.

- Ministry of Education of the People's Republic of China (MOE). 2016. Last access Jan 10, 2016. <http://www.moe.edu.cn>
- Moran-Taylor, Michelle, and Cecilia Menjívar. 2005. Unpacking longings to return: Guatemalans and Salvadorans in Phoenix, Arizona¹, *International Migration*, 43(4): 91-121.
- Moriarty, Elaine, James Wickham, Torben Krings, Justyna Salamonska, and Alicja Bobek. 2012. 'Taking on almost everyone?' Migrant and employer recruitment strategies in a booming labour market. *The International Journal of Human Resource Management* 23(9): 1871-1887.
- Mosneaga, Ana, and Lars Winther. 2013. Emerging talents? International students before and after their career start in Denmark. *Population, Space and Place* 19(2): 181-195.
- Murphy-Lejeune, Elizabeth. 2003. *Student mobility and narrative in Europe: The new strangers*. London: Routledge.
- Naidoo, Vikash. 2007. Research on the flow of international students to UK universities: Determinants and implications. *Journal of Research in International Education* 6: 287-307, doi:10.1177/1475240907083197
- National Academies. 2005. Policy implications of international graduate students and postdoctoral scholars in the United States. Washington, DC: National Academies Press.
- Nickson, Dennis, Chris Warhurst, and Eli Dutton. 2005. The importance of attitude and appearance in the service encounter in retail and hospitality. *Managing Service Quality* 15(2): 195-208.
- Nohl, Arnd-Michael, Karin Schittenhelm, Oliver Schmidtke, and Anja Weiss. 2014. *Work in transition: Cultural capital and highly skilled migrants' passages into the labour market*. University of Toronto Press.
- Obama, Barack. 2015. Inauguration Address, Inauguration, Washington D.C., 21 Jan. 2013, The White House, Web. 18 July 2015.
- Ong, Aihwa. 1999. *Flexible citizenship: The Cultural Logics Of Transnationality*. Duke University Press.
- Peralta-Nash, Claudia. 2003. Literature circles in a bilingual classroom: The power of language choice. *New Advocate* 16(1): 57-61.
- Pessar, Patricia R., and Sarah J. Mahler. 2003. Transnational migration: Bringing gender in. *International Migration Review* 37(3): 812-846.

- Portes, Alejandro, Luis E. Guarnizo, and Patricia Landolt. 1999. The study of transnationalism: pitfalls and promise of an emergent research field. *Ethnic and racial studies*, 22(2): 217-237.
- Portes, Alejandro, William J. Haller, and Luis Eduardo Guarnizo. 2002. Transnational entrepreneurs: An alternative form of immigrant economic adaptation. *American Sociological Review* 67(2): 278-298.
- Powers, Mary G., and William Seltzer. 1998. Occupational status and mobility among undocumented immigrants by gender. *International Migration Review*, 21-55.
- Putnam, Robert D. 2007. E pluribus unum: Diversity and community in the twenty-first century the 2006 Johan Skytte Prize Lecture. *Scandinavian political studies* 30(2): 137-174.
- Raghuram, Parvati, Leroi Henry, and Joanna Bornat. 2010. Difference and distinction? Non-migrant and migrant networks. *Sociology* 44(4): 623-641.
- Raghuram, Parvati. 2013. Theorising the spaces of student migration. *Population, Space and Place* 19(2): 138-154.
- Ran, He. 2006. China's top ten most successful returnees: overseas study experiences are true assets, in Chinese. http://news.xinhuanet.com/overseas/2006-02/07/content_4147976.htm(accessed October 27, 2015).
- Rauch, James E. 2001. Business and social networks in international trade. *Journal of Economic Literature* 39(4): 1177-1203.
- Reitz, Jeffrey G. 2001. Immigrant skill utilization in the Canadian labour market: Implications of human capital research. *Journal of International Migration and Integration/Revue de l'integration et de la migration internationale* 2(3): 347-378.
- Robertson, Shanthi, and Anjena Runganaikaloo. 2013. Lives in limbo: Migration experiences in Australia's education-migration nexus. *Ethnicities*. DOI: 1468796813504552.
- Robertson, Shanthi. 2011. Student switchers and the regulation of residency: the interface of the individual and Australia's immigration regime. *Population, Space and Place* 17: 103-115.
- Rosen, Stanley, and David Zweig. 1978. Transnational capital: valuing academic returnees in a globalizing China. *Bridging Minds Across the Pacific: US-China Educational Exchanges* 2003: 111-132.
- Ryan, Louise, Rosemary Sales, Mary Tilki, and Bernadetta Siara. 2008. Social networks, social support and social capital: The experiences of recent Polish migrants in London. *Sociology* 42(4): 672-690.

- Salzman, Hal. 2000. The information technology industries and workforces: work organization and human resource issues. *Report to the National Academy of Sciences Committee on Workforce Needs in Information Technology*.
- Sanders, Jimmy, Victor Nee, and Scott Sernau. 2002. Asian immigrants' reliance on social ties in a multiethnic labor market. *Social Forces* 81(1): 281-314.
- Sarre, Philip, Deborah Phillips, and Richard Skellington. 1989. *Ethnic minority housing: explanations and policies*. Aldershot: Avebury.
- Saxenian, AnnaLee. 2002. Brain circulation: How high-skill immigration makes everyone better off." *The Brookings Review* 20(1): 28-31.
- Saxenian, AnnaLee. 2005. From brain drain to brain circulation: Transnational communities and regional upgrading in India and China." *Studies in Comparative International Development* 40(2): 35-61.
- Saxenian, AnnaLee. *Silicon Valley's new immigrant entrepreneurs*. Center for Comparative Immigration Studies Vol. 32. San Francisco: Public Policy Institute of California, 1999.
- Şenyürekli, Aysem R., and Cecilia Menjivar. 2012. Turkish immigrants' hopes and fears around return migration. *International Migration* 50(1): 3-19.
- Shan, Hongxia. 2013. Skill as a relational construct: Hiring practices from the standpoint of Chinese immigrant engineers in Canada. *Work, Employment & Society* 27(6): 915-931.
- She, Qianru, and Terry Wotherspoon. 2013. International student mobility and highly skilled migration: A comparative study of Canada, the United States, and the United Kingdom. *Springer Plus* 2(1): 1-14.
- Shen, Wei. 2009. *Chinese student circular migration and global city formation: a relational case study of Shanghai and Paris* (Doctoral dissertation, Wei Shen).
- Simmons, Alan B. 1985. Recent studies on place-utility and intention to migrate: An international comparison. *Population and Environment* 8(1-2): 120-140.
- Staley, Oliver. 2011. Lure of Chinese tuition pushes out Asian-Americans. *Bloomberg*. Dec 28 2011. URL:<http://www.bloomberg.com/news/2011-12-28/lure-of-chinese-tuition-squeezes-out-asian-americans-at-california-schools.html>
- Stark, Oded, Christian Helmenstein, and Alexia Prskawetz. 1997. A brain gain with a brain drain. *Economics Letters* 55(2):227-234.

- Stark, Oded. 1996. On the Microeconomics of Return Migration. Occasional Papers No. 1/1996, Vienna: University of Vienna, Center for International and Interdisciplinary Studies.
- Stark, Oded. 2004. Rethinking the brain drain. *World Development* 32(1): 15-22.
- State, Bogdan, Mario Rodriguez, Dirk Helbing, and Emilio Zagheni. 2014. Migration of professionals to the US. In *Social Informatics*, pp. 531-543. Springer International Publishing.
- Straubhaar, Thomas. 2000. International mobility of the highly skilled: Brain gain, brain drain or brain exchange," HWWA Discussion Paper, No. 88, 2000. <http://hdl.handle.net/10419/19463>
- Suter, Brigitte and Michael Jandl. 2006. *Comparative Study on Policies towards Foreign Graduates: Study on Admission and Retention Policies towards Foreign Students in Industrialised Countries*. International Centre for Migration Policy Development (ICMPD).
- Tannenbaum, Michal. 2007. Back and forth: Immigrants' stories of migration and return. *International Migration*, 45(5): 147-175.
- Thomas - Hope, Elizabeth. 1999. Return migration to Jamaica and its development potential." *International Migration* 37(1): 183-207.
- Tiemoko, Richmond. 2004. Migration, return and socio - economic change in West Africa: the role of family. *Population, Space and Place*, 10(2): 155-174.
- Todaro, Michael P. 1969. A model of labor migration and urban unemployment in less developed countries. *The American Economic Review* 59(1): 138-148.
- Tremblay, Karine. 2005. Academic mobility and immigration. *Journal of Studies in International Education* 9(3): 196-228.
- Universities UK. 2008. Memorandum. *The Economic Impact of Immigration, Volume II*, House of Lords Select Committee on Economic Affairs, Stationery Office, London: 509-14.
- United Kingdom Home Office. 2006. *Control of Immigration: Statistics United Kingdom 2005*. Home Office, Research, Development and Statistics Directorate (United Kingdom).
- U.S. Citizenship and Immigration Services. 2016. Per Country Limit. Last access January 10. <http://www.uscis.gov/tools/glossary/country-limit>

- U.S. Citizenship and Immigration Services. 2015a. H-1B Fiscal Year (FY) 2016 Cap Season. Last access Oct 10, 2015. <http://www.uscis.gov/working-united-states/temporary-workers/h-1b-specialty-occupations-and-fashion-models/h-1b-fiscal-year-fy-2016-cap-season>.
- U.S. Citizenship and Immigration Services. 2015b. USCIS Reaches FY 2016 H-1B Cap. Last access Oct 10, 2015. <http://www.uscis.gov/news/news-releases/uscis-reaches-fy-2016-h-1b-cap>
- U.S. Citizenship and Immigration Services. 2015c. USCIS Seeks Comments on Proposed Rule Affecting Certain Employment-Based Immigrant and Nonimmigrant Visa Programs. Last access Jan 10, 2016. <http://www.uscis.gov/news/uscis-seeks-comments-proposed-rule-affecting-certain-employment-based-immigrant-and-nonimmigrant-visa-programs>
- U.S. Citizenship and Immigration Services. 2014. USCIS Reaches FY 2015 H-1B Cap. Last access Oct 10, 2015. <http://www.uscis.gov/news/uscis-reaches-fy-2015-h-1b-cap-0>
- U.S. Citizenship and Immigration Services. 2013. USCIS Reaches FY 2014 H-1B Cap. Last access Oct 10, 2015. <http://www.uscis.gov/news/uscis-reaches-fy-2014-h-1b-cap>
- U.S. Immigration and Customs Enforcement. 2016. Student and exchange visitor program. Last access January 10, 2016. <https://www.ice.gov/sevis/travel>
- Vanhonacker, Wilfried, David Zweig, and Siu Fung Chung. 2005. Transnational or social capital? Returnee versus local entrepreneurs. *Center on China's Transnational Relations Working Paper 7*.
- Vygotsky, Lev S. 1980. *Mind in society: The development of higher psychological processes*. Harvard University Press.
- Wadhwa, Vivek, Annalee Saxenian, Richard Freeman, Gary Gereffi, and Alex Salkever. 2009. America's loss is the world's gain: America's new immigrant entrepreneurs IV. The Kauffman Foundation.
- Wadhwa, Vivek, Sonali Jain, AnnaLee Saxenian, Gary Gereffi, and Huiyao Wang. 2011. The grass is indeed greener in India and China for returnee entrepreneurs: America's new immigrant entrepreneurs- part VI." Available at SSRN 1824670.
- Waldorf, Brigitte. 1995. Determinants of international return migration intentions. *The Professional Geographer* 47(2): 125-136.
- Wang, Huiyao and Hong Liu. eds. 2012. *The bluebook of global talent*. Beijing: Mechanical and Industrial Press. (in Chinese).

- Wang, Huiyao and Miao Lv. eds. 2013. *The blue book of global talent: Annual report on the development of Chinese returnees*. Beijing: Mechanical and Industrial press. (in Chinese).
- Wang, Huiyao. ed. 2009. *The report of development of Chinese overseas educational talents*. Beijing: Mechanical and Industrial press. (in Chinese).
- Waters, Johanna L. 2005. Transnational family strategies and education in the contemporary Chinese diaspora. *Global Network* 5: 359-378.
- Waters, Johanna L. 2006. Geographies of cultural capital: education, international migration and family strategies between Hong Kong and Canada. *Transactions of the Institute of British Geographers*, 31(2), 179-192.
- Waters, Johanna L. 2009. In pursuit of scarcity: transnational students, 'employability', and the MBA. *Environment and Planning A* 41(8): 1865-1883.
- Waters, Johanna, and Maggi Leung. 2013. A colourful university life? Transnational higher education and the spatial dimensions of institutional social capital in Hong Kong. *Population, Space and Place* 19(2): 155-167.
- Welch, Anthony R. and Zhang Zhen. 2008. Higher education and global talent flows: Brain drain, overseas Chinese intellectuals, and diasporic knowledge networks. *Higher Education Policy* 21(4): 519-537.
- Williams, Allan M. 2006. Lost in translation? International migration, learning and knowledge. *Progress in Human Geography* 30(5): 588-607.
- Williams, Allan M., and Vladimir Baláz. 2004. From private to public sphere, the commodification of the au pair experience? Returned migrants from Slovakia to the UK. *Environment and Planning A* 36(10): 1813-1833.
- Xia, Yingqi. 2006. *Returnees and Zhongguancun*. Beijing: China Development Publication.
- Yang, Rui. 2003. Globalisation and higher education development: A critical analysis. *International Review of Education* 49(3-4): 269-291.
- Yeoh, Brenda SA, and Lai Ah Eng. 2008. GUEST EDITORS'INTRODUCTION: 'Talent' migration in and out of Asia: challenges for policies and places. *Asian Population Studies* 4(3): 235-245.
- Yeoh, Brenda SA, Shirlena Huang, and Theodora Lam. 2005. Transnationalizing the 'Asian' family: imaginaries, intimacies and strategic intents. *Global networks*, 5(4): 307-315.

Ziguras, Christopher and Siew-Fang Law. 2006. Recruiting international students as skilled migrants: the global 'skills race' as viewed from Australia and Malaysia. *Globalisation, Societies and Education* 4(1):59-76.

Zweig, David, Chung Siu Fung, and Donglin Han. 2008. Redefining the brain drain China's 'diaspora option'. *Science Technology & Society* 13(1): 1-33.

Zweig, David. 1997. To return or not to return? Politics vs. economics in china's brain drain. *Studies in Comparative International Development* 32: 92-125

APPENDIX A
HUMAN SUBJECTS INSTITUTIONAL REVIEW BOARD REVIEW APPROVAL
DOCUMENTS



EXEMPTION GRANTED

Wei Li
Social Transformation, School of
480/727-6556
Wei.Li@asu.edu

Dear Wei Li:

On 5/19/2014 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	Chinese Student Migrants in Transition Period
Investigator:	Wei Li
IRB ID:	STUDY00001007
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	<ul style="list-style-type: none">• Information-letter_Wan Yu_0510.pdf, Category: Consent Form;• IRB_HRP 503a-518wy (2).docx, Category: IRB Protocol;• Recruitment Script_Wan Yu, Category: Recruitment Materials;

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 (2) Tests, surveys, interviews, or observation on 5/19/2014.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator

cc: Wan Yu
Wan Yu