

Not a Lonely Journey: Social Embeddedness and the Return Migration of Highly Skilled Chinese Engineers from the United States

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Abstract

This paper examines how social processes affect the decisions of Chinese engineers in the United States to return to China and their experience as returnees. The analysis is based on three pieces of data: quantitative data from a survey of a group of Chinese engineers in Boston regarding their plans to return, qualitative data from in-depth interviews with returnees in China and migrants who are still in the United States, and qualitative data from interviews with various types of institutional actors involved in the return migration processes. The study finds that return migration is often associated with entrepreneurship. This pattern reflects migrants' perception of the opportunity structure in China. A mixture of opportunities and constraints that exist in China often leads engineers to return for technology entrepreneurship. Moreover, in contrast to the conventional wisdom that often views the migration of highly skilled workers as an individualized process, this study finds that return migration is not a lonely journey. It is very often a group process instead of an individual process. Returnees/potential returnees draw heavily upon the ties with other migrants that have been established during the migration process. The decision to return is often not made by isolated individuals, but made collectively by the group of people who go back to China as a team. In addition to interpersonal ties, various types of voluntary migrant associations serve as important intermediaries between migrants' communities and gatekeepers in China. The results of this study shed new light on the enabling mechanisms of circular migration.

Introduction

The increasing mass movement of professional and technical workers from developing countries to industrialized countries during the past two decades has rekindled the debate over highly skilled migration, which has long centered around the notion of brain drain. Recent empirical studies have suggested that skilled workers' migration from developing countries to industrialized countries is shifting from a one-way brain drain to a two-way circulation (Wadhwa et al. 2009; Saxenian 1999; Saxenian, Motoyama, Quan, and Wittenborn 2002; Kapur 2001; Martin 2003): The two-way flows of skilled labor have provoked many spirited academic and policy debates on the causes and consequences of highly skilled migration. However, the existing policy discussion and academic research on this issue usually feature a high level of aggregation. Although there is a widespread belief that liberalizing the transnational movement of skilled labor, if properly managed, would result in a win-win-win situation for the sending countries, receiving countries, and migrants themselves (Kapur 2001; Pellegrino 2001), how exactly this potential can be realized is still not adequately understood. Evaluating the impacts of highly skilled migration requires a good understanding of the micro-processes of these migration flows, in particular who exactly returns and under what circumstances. These questions are likely to be more complex than acknowledged in the extant literature.

This study seeks to fill this gap by looking into the micro-processes and the enabling mechanisms of return migration. The extant literature on labor market processes and migrants' careers has primarily focused on the migration of low-wage or low-skilled workers. When it comes to the return migration of highly skilled workers, the literature has yet to develop a strong social and institutional component. The study brings career back to the analysis of highly skilled circular migration, by connecting the *career* with the *system*, and suggests that migrants' interactions with other players in the system and their responses to the opportunity structures in the host and home countries are key to understand the mechanisms of return migration.

China now takes the second place among sending countries of skilled immigrants to the United States. Although the mass emigration from mainland China only started after 1978 when China launched the "open door" policy (Zhang 1992), over 800,000 mainland Chinese had went abroad to study by 2003 (Wang 2004). This paper looks into the mechanisms underlying the return migration of Chinese engineers. Although it focuses on a particular migration stream, it does so in the context of a much broader debate in public policy and scholarly literature on the geographic mobility of highly skilled labor.

The paper proceeds as follows. The first section reviews the theories of international migration. I suggest that while the human capital approach that dominates the discussion of international migration has contributed substantially to our knowledge on the variation of migration behaviors across skill categories, it offers limited implications for the different behaviors and choices among individuals with similar human capital characteristics, i.e., all highly educated and highly skilled. Building on the rich literature of the micro-processes of low-wage migration, the paper develops a twofold argument. Firstly, migrants' decisions on returning reflect the interplay of their individual characteristics and the opportunity structure in the home country and host country. A mixture of opportunities and constraints that exist in China affects migrants' decisions to return and their careers after they return, which often leads those with an engineering background to return for technology entrepreneurship. Secondly, the decision to return is also affected by a web of social relations where migrants are embedded. The return migration of highly skilled workers is not necessarily an individualized action, but is supported by a whole set of social infrastructures.

The second section describes the multiple types of data collected for the analysis, including quantitative data from a survey and qualitative data from fieldwork in the United States and in China. A survey of Chinese engineers in Boston serves to identify whether there are any systematic patterns with regard to the questions of who decides to return and under what circumstances. Data from semi-structured, open-ended interviews with migrants in Boston and returnees in Beijing, Guangzhou, and Shanghai, as well as a variety of institutional actors, are used to understand the mechanisms underlying these patterns.

The succeeding three sections report the findings from data analysis. The analysis starts from migrants' decisions about returning to China, by looking into a range of factors that are often neglected in prior studies, such as work history, especially entrepreneurship experience, and social embeddedness. The survey data yield interesting results that depart from the conventional wisdom. The key findings are twofold. First, among Chinese engineers who have very similar educational background, plans to return are not correlated with the length of time in the United States. Instead, migrants with higher earnings in the United States and less difficulty with their professional and technical skills are more likely to consider returning. A close look at their work experience shows that the decision to return is closely tied to entrepreneurship. Second, contacts with co-ethnics in and outside workplace are closely associated with the decision to return to China.

A clearer explanation emerged from the interviews that grounded the qualitative dimension of this study. The self-selectivity of return migration reflects migrants' responses to the particular opportunity structure in the home country. A mixture of opportunities and constraints that exist in China creates different niches for returnees, which often leads those with an engineering background to enter technology entrepreneurship. The paper then further explains why this opportunity structure comes into existence.

The paper then probes further into the return migration processes. In contrast to the conventional wisdom that depicts the migration of highly skilled labor as highly individualized, the study finds that return to China is not a lonely journey: very often the decision to return is not made by isolated individuals, but a collective choice made by the group of people who go back to China as a team. The connections among team members are established in the process of migration, usually in the United States, among people who have had few previous contacts in China. It is also facilitated by a set of formal organizations, which emerge in the migration process for both cultural and instrumental purposes. The Chinese state and local governments

approach their overseas talent pool through these organizations, rather than directly approaching migrants as individuals. The paper concludes by suggesting future directions for research on highly skilled circular migration.

Revisiting the Theories of Circular Migration

The economic approach, which has largely dominated the discussion about how people move across national borders, primarily centers around the human capital characteristics of migrants (Borjas 1987, 1994; Borjas and Bratsberg 1996) and suggests that people move to find employment and remuneration more appropriate to their education and training. Economists fall into two camps when it comes to the motives for return migration. While the positive-selection perspective predicts that returnees are disproportionately drawn from the more skilled and more successful of their arriving migrant cohort. (Stark and Bloom 1985), the negative-selection perspective views return migration as the correction of mistakes in initial migration decisions; hence, the less successful migrants return (Blejer and Goldberg 1980; Beenstock 1996; Cohen and Harverfeld 2001).

These models are powerful in explaining why migration decisions differ among individuals across different skill levels. But they do not explain why, among a group of people with the same level of skill, some return but others do not. The labor market today is characterized by increasing labor division, and the types of skills are the most diverse in the highly skilled labor force. Great variations exist in specialization among those at the same general skill level, as usually measured by years of schooling in the human capital model. The rewards for skills are not likely to be identical at the same level of schooling, particularly in developing economies where certain types of skills are in greater demand than others. While there remains a huge gap in engineers' salaries between China and the United States, anecdotal stories have shown technology-based entrepreneurial activities can be as rewarding in China as in the United States.

It is more than skill that matters. The match between a person's skill and the opportunity structure that a migrant faces is critical to mobility. Researchers who study the causes of brain drain in the 1970s and 1980s also have suggested that economic, social, and political conditions in the host and home countries, as well as policy interventions, are important in understanding the international mobility of skilled workers (Bhagwati and Hamada 1974; Bhagwati 1976; Bhagwati and Wilson 1989; Goss and Lindquist 1995). Therefore, identifying what types of skills are most rewarding requires a careful examination of the opportunity structures in specific countries.

Social embeddedness is another important theme in the migration literature (Portes and Sensenbrenner 1993). Prior research in this vein has suggested that networks between existing and potential migrants can provide information about and reduce psychological costs involved in migration and enhance new migrants' employment opportunities. Empirical evidence has shown that, among low-wage migrants, "chain migration" is often promoted, facilitated, and perpetuated by social networks (MacDonald and MacDonald 1964; Boyd 1989; Massey 1990; Massey, Goldring, and Durand 1994). Meanwhile, studies on low-wage workers' host country labor market adaptation—in particular, research on ethnic enclaves and ethnic niches—have also found that the rate of entrepreneurship entry among migrant groups is much higher than that of natives. The lack of access to regular jobs often pushes migrants into ethnic enclaves or certain occupational niches (Zhou 1990; Waldinger 1996). It is also suggested that co-ethnic ties, family and kinship ties in particular, are the major channels through which new migrants enter ethnic enclaves or ethnic niches (Piore 1979; Sassen 1995; Waldinger and Lichter 1997; Waldinger 2001; Waldinger and Der-Martirosian 2001).

Prior studies have shown a very clear picture of the role of social networks in low-wage migration. Migration takes place in social networks. Those networks are important to the migration process itself and to finding jobs in the host country. In the early stage of migration, they are key to success. But in the later stages, they become a trap: migrants who are successful break out of these networks and integrate into the host society. The story about highly skilled migration that emerges from my research is almost the opposite of the received wisdom about low-wage migration. In an earlier study of the settlement processes of Chinese engineers in Boston, I found that people migrate as individuals and find their initial jobs through formal contacts, such as contacts established through universities. But as they stay, they gradually form social ties, and these ties are critical to successful upward mobility in the United States. In this paper, I argue that these

networks also matter in return migration. The ties with co-ethnics help migrants form decisions about going back to China and facilitate their movement when they actually return.

Data and Methods

Empirical studies of return migration usually use large datasets, very often national census data. These data provide only rough measurements of skills and labor market experience. To capture both the individual and the social dimensions of return migration, this study collected data through multiple methods, including a survey, in-depth interviews, and participatory observations. Around 200 Chinese engineers in Boston were surveyed regarding their plans to return to China. The survey collected systematic information on migrants' plans of return, education and work experience, and career trajectories. In-depth interviews were conducted with Chinese migrants in Boston, returnees in three major destination cities of return migration—Beijing, Guangzhou, and Shanghai—and with a variety of institutional actors, such as recruitment agencies, migrant associations, companies, and governments. The data collection also involved participatory observations by the author attending a number of formal and informal event of major Chinese professional associations in Boston and events in Chinese communities related to return migration in Boston, Beijing, Shanghai, and Guangzhou from 2003 to 2005.

The Survey

Members of two major associations of Chinese engineers in Boston were surveyed regarding their decisions to return to China. I selected those who were first-generation immigrants from Mainland China. The sample includes 150 observations. By looking at migrants who may return and those who may not, we avoid the common bias of sampling around the dependent variable. This bias is often seen in return migration research, where only those who already returned are studied. The dependent variable, planning to return to China, was constructed based on the question “Do you plan to move back to China in the next 5 years?” Respondents were asked to choose from *yes*, *no*, and *have not decided*. In addition to the two variables that are usually used as explanatory variables in return migration analysis—skills and wages—we also collected data in other dimensions that may also affect return migration, such as entrepreneurship experience, ratio of co-ethnic colleagues in workplace, ratio of co-ethnic contacts outside workplace, challenges faced in career development, and immigration status.

Interviews and Participatory Observations

Interviews were carried out with three types of individuals and organizations: (1) 35 interviews with Chinese engineers in Boston about their plans to return to China and preparations for the potential move, (2) 32 interviews with returnees from the United States in Beijing, Guangzhou, and Shanghai, and (3) interviews with institutional players involved in return migration, including 12 migrant professional associations, 5 returnee associations, 3 alumni associations, 2 recruitment agencies, and 6 companies, as well as government agencies such as the Chinese Service Center for Scholarly Exchange, the Ministry of Science and Technology, and the Ministry of Education.

The interviews with individual migrants/returnees lasted for one hour on average, which covered the complete career history since college graduation and the stories behind each move. Emphasis was placed on pre-migration and post-migration education and work experience, the motivation for returning, the means of obtaining job and business information in China, and the comparison between pre-migration and post-migration career performance and job satisfaction. The interviews of the institutional actors were carried out at multiple levels within the organizations. From 2003 to 2005, the author attended most of the activities of the major Chinese professional associations in Boston, such as the New England Chinese Information and Network Association (NECINA), Sino-American Pharmaceutical Professional Association (SAPA), and Overseas Chinese Entrepreneurs Association (OCEAN), including conferences, meetings of management teams, and informal social events.

Who Returns?

Figure 1 presents the distribution of the return migration plan. It shows great variation within the group. One third of the respondents plan to return to China in the next five years. Another one third plan to stay. The rest have not decided yet.

FIGURE 1
Plan for Returning to China in the Next Five Years

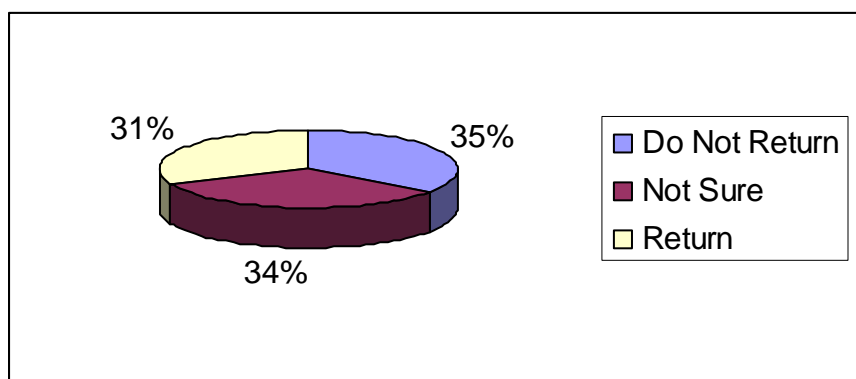


Table 1 summarizes the basic demographic characteristics. The age of the respondents ranges from 23 to 55. Over 95% of them entered the United States after 1980, and the majority came with a student visa. All had completed college education before migration, and the majority of them received advanced education in the United States—about 70% received a master's degree from a U.S. university and over a quarter received a doctorate from a U.S. university.

TABLE 1
Sample Demographic Characteristics

	Mean	Standard deviation
Age	37.35	6.53
Gender (% male)	73%	45%
Years of schooling in China	17.44	2.20
Home country work experience (% yes)	72%	45%
Years in the US	11.2	5.79
Master degree in the U.S.	70%	46%
Doctor degree in the U.S.	26%	43%
Entrepreneurship experience	27%	45%
Immigration status (% permanent residence or citizen)	70%	46%
Current income (× \$10,000)	9.7	1.89
Whether or not found the current job through Chinese (% yes)	38%	49%

The high ratio of advanced education attainment in the United States reflects another important trend associated with the increasing skilled migration: the internationalization of higher education (Iredale 2001). Data from the National Science Foundation (2001) show that from 1988 to 1996, Chinese students earned 7.5% of all science and engineering doctorates offered by U.S. universities (16,550 out of 219,643). In our sample, there is an interesting feature with regard to the initial purpose of migration. Most people moved to the United States for education instead of employment. A Western degree is not only necessary for

employment in certain highly skilled professions in the United States but is also highly valued in China and often viewed as a ticket to better employment after returning to China, whether in domestic companies or in multinational companies. In this case, migration to the advanced countries is frequently a planned move in order to accumulate human or financial capital.

In the discussion of migration and return migration, legal immigrant status has often been used as a proxy for the permanent or temporary nature of migration. However, in the increasingly globalized labor markets for highly skilled professionals, the flows of labor are more fluid than ever before, and the distinction between permanent and temporary residency has lost its prominence in predicting the actual duration of migration. Table 2 shows that permanent residence status does not necessarily mean that the migration is permanent, and temporary residence status does not necessarily mean that the migration is temporary. It is worth noting that the labor flows are so dynamic that return migration can be reversed, too. In fact, people often seek permanent residency not because they plan to stay in the United States for the rest of their lives but precisely because they plan to return to their native country and want to keep the option of coming back to the United States in the future. The pursuit for permanent residency is also related to the fact that a significant proportion of return migration involves entrepreneurship. Due to the high risks of entrepreneurial activities, permanent residency in the United States is often regarded as offering a backup if the return migration does not turn out a success.

TABLE 2
Return Plan by Immigrant Status

Immigration Status	Return Plan			Total
	Not return	Perhaps return	Return	
Permanent	38 (.35)	37 (.34)	33 (.31)	108 (1.00)
Non-Permanent	14 (.33)	14 (.33)	14 (.33)	42 (1.00)
Total	52 (.35)	51 (.34)	47 (.31)	150 (1.00)

*Row proportions are in parentheses.

Figure 2 shows the plan to return, by income level. Although the percentage of respondents who plan to return does not vary significantly across income levels, the percentage of those who decide not to return is much lower in the higher income categories. For those who earn less than \$60,000 a year, almost half plan not to go back to China in the next five years, while for those who earn more than \$100,000 a year, only about a quarter plan to stay.

Furthermore, prior studies have suggested that the decision about migration is affected not only by material returns but also by non-pecuniary factors such as identity and sense of self-fulfillment (Zhang 1992). In the survey, the respondents were asked what proportion of colleagues who they worked with on a daily basis were Chinese (Figure 3). This is an important indicator of the degree of assimilation in the host country labor market. In contrast to the conventional wisdom that migrants less integrated into the host society tend to return, the data show no evidence of such a negative selection. Among those who work in a nearly all-Chinese workplace, about 65% decide to stay in the United States and only 10% consider going back. On the contrary, for those who are the only Chinese workers in their workplace, only 20% decide to stay in the United States and one third plan to return to China in the next five years. Although this result appears counter-intuitive at first glance, it reflects the importance of social embeddedness. It is well established in migration literature that co-ethnic networks and communities serve an important function in providing cultural and emotional support to immigrants in the host societies. Those who lack such support are more inclined to return.

FIGURE 2
Plan to Return, by Wage

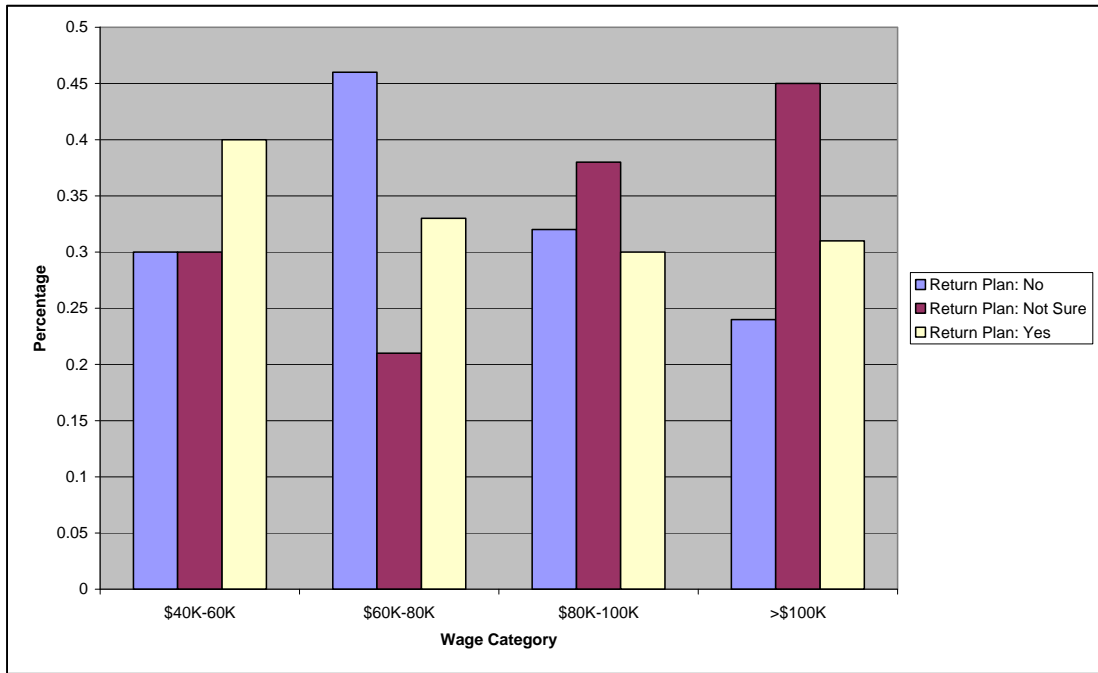
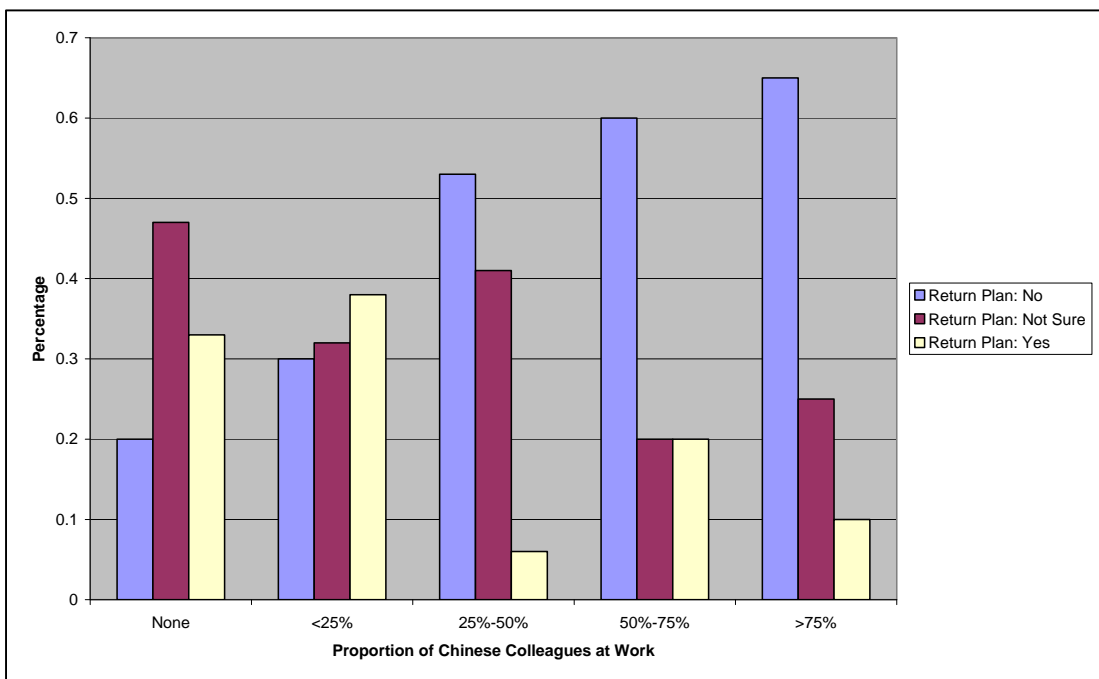


FIGURE 3
Plan to Return, by Proportion of Chinese Colleagues at Work



To estimate the effects of all of the factors simultaneously, an ordered logistic regression model was developed to examine the determinants of the decision about return migration. The results are presented in Table 3. Two pieces of evidence yield support to the positive selection story: there is a positive relationship between income and the propensity for return, and those with less difficulty in professional and technical skills are more likely to consider returning. This result is consistent with the optimal residential location plan argument.

TABLE 3
Ordered Logit Models of the Determinants of Return Decision

Predictors	Coefficient		
Ratio of Chinese at work	-0.642**	-0.634**	-0.652**
	(0.218)	(0.22)	(0.222)
Ratio of Chinese in social life	1.402~	1.461~	1.477~
	(0.838)	(0.853)	(0.859)
Entrepreneurship experience	0.772*	0.87*	0.819*
	(0.378)	(0.386)	(0.395)
Current income	0.230~	0.243~	0.231~
	(0.126)	(0.129)	(0.133)
Immigration status	-0.28	-0.278	-0.345
	(0.244)	(0.248)	(0.285)
Years of U.S. experience (log)	0.045	0.025	0.0229
	(0.15)	(0.151)	(0.151)
Lack of professional and technical skills		-0.190~	-0.198~
		(0.108)	(0.11)
Lack of language skills		0.11	0.106
		(0.127)	(0.128)
Lack of social and communication skills		0.064	0.0676
		(0.138)	(0.14)
Age			0.023
			(0.033)
Gender			0.074
			(0.376)
Number of observations	146	146	146
Chi ² (11)/Chi ² (9)/Chi ² (6)	19.99 **	23.69 **	24.12 **
Pseudo R ²	0.0624	0.0739	0.0753

Key: ~ p < 0.10; * p < 0.05; ** p < 0.01; *** p < 0.001
Standard deviations are provided in parentheses.

The findings reveal some patterns that are quite distant from the conventional wisdom. First, age and migration duration are not important in predicting the intention to return. Instead, entrepreneurship experience is critical. Those who have attempted to start their own business are more inclined to return, which reflects the interplay between migrants' individual characteristics, especially work experience and career orientation, and the specific opportunity structure that exists in China. Second, people with a smaller fraction of co-ethnics among their immediate colleagues are more likely to consider returning. This pattern demonstrates the importance of social embeddedness: despite the greater potential for assimilation that such an environment might provide, the lack of meaningful interpersonal ties with co-workers and the feeling of cultural alienation predominates. In at least one sense, migrants' employment relations are embedded in their social relations: controlling for factors such as income and skills, such workers still positively value opportunities to interact with others with the same background. On the other hand, the decision to return is positively associated with the proportion of Chinese

friends in one's social circle (outside the workplace). Contacts between migrants have been proven, in previous migrant studies, as constituting an important source of social capital, which provides information bases and supporting mechanisms for migrants' initial migration and settlement in the host country. The result here indicates that, when migrants return, co-ethnic networks also matter.

Technology Entrepreneurship—Carving Out Their Own Niche

A clearer explanation of these findings emerges from the qualitative data. The interview data reveal that migrants' decisions to return reflect their perceptions of the opportunity structure that exists in China. Migrants are usually well informed of what opportunities and constraints are out there if they return. One of the interviewees spoke to this point: "Thanks to Internet, all kinds of information are available in cyberspace. I read Chinese news every day. I also call my friends who already returned to find out how things are going there."

Prior to the mid-1990s, very few Chinese migrants returned. Since the second half of the 1990s, the continuing rapid growth in the economy has aroused a *new Chinese dream* among overseas Chinese, which sparked interest in going back. A mixture of opportunities and constraints that exist in China has created various niches for returnees. For those with an engineering background, the niche is often technology entrepreneurship. Unlike academics and the expatriates of multinational companies, many returnees with an engineering background go back to start their own business instead of getting a salary-earning job. This happens for a variety of reasons. The gap in technology between China and the United States has become both a constraint for returning engineers to find employment and an advantage for them to start a business on their own. The high-tech boom in the United States in the 1990s, especially in information technology sectors, has attracted a significant number of Chinese engineers into these fields, where they have worked on cutting-edge technologies. The skills they possess are often too specialized or too advanced to be applied in China, and there is very limited demand for those skills in the existing industrial structure in China. Engineers who have returned often find it difficult to get jobs suitable for their skills.

Mark Li is one of those who returned to China in the hope of using his technical skills. Mark went back to China after obtaining a master's degree in math and computer science and worked for six years in the United States. His first job back in China was a project manager in a software company. However, he quit after one and a half years. He explained the decision as follows:

Being the only returnee in the company, you were given unreasonably high expectations, for example, to achieve something big within a few months. However, what you could do was so much determined by what was already there and whom you were working with.

Then he realized that what he could use was actually his language skills and his understanding of the culture and market overseas, so he joined an import and export company and planned to start his own business in a couple of years, after having established the necessary business connections.

Some other returnees have managed to use their technical skills and successfully created a space for themselves by starting their own businesses. When the skills and technological knowledge that returnees possess have not been widely diffused in China, the returnees are in position to become technology leaders. As a well-known example, China's high-speed Internet infrastructure was built under the lead of a group of returnees. A study by Zweig, Vanhonacker, and Fung (2005) found that technology brings people back: eighty percent of the returnee entrepreneurs in their study have knowledge of a technology that is new for China, giving them a significant competitive advantage in the domestic market.

One of the interviewees explained why he chose to start his own firm instead of working for established companies:

There are a lot of politics in large companies here. Perhaps I should call it the Chinese corporate culture. It is not bad; it is just different. I left China in my early 20s. I spent more than 20 years in the United States. I thought I didn't change but actually I did, in many ways—the way I think and the way I interact with my colleagues. It took me such a long time to adjust to the American culture. At the age of 46, I don't think it is worth doing (it) a second time. I'd rather make it simple, to be my own boss, and concentrate on the real valuable stuff.

Consistent with this story about constraints and opportunities, the central, provincial, and municipal governments in China have launched a set of policies encouraging returnees' entrepreneurial activities. These policies range from tax exemption and free office space to direct investment of government funds. There were more than a hundred entrepreneurship parks solely for returnees across China by 2006. In the Zhongguancun Science and Technology Zone in Beijing alone, over 6,000 companies were founded by returnees from overseas by 2006. Interviews with government authorities have revealed two primary reasons why they favor technology-based entrepreneurship among returnees. First, it is an effective channel through which the technology and skills that returnees possess could be transferred and utilized. Second, China is a labor-surplus country. Even in engineering, each year thousands of domestically trained college graduates have difficulty finding jobs. Under this circumstance, someone who can create employment is much more by the government to those who compete for employment.

These patterns are in line with some observations of researchers who study labor market processes outside the migration context. Prior studies have shown that the macro-structural characteristics of organizational environments (i.e., a firm's product and output market) influence the outcomes in the labor market (Brittain and Wholey 1991; Fujiwara-Greve and Greve 2000). Researchers have also found that firms' locations within the social structure of an industry mediate the relationship between macro-level characteristics of industries and individual careers (Phillips and Sørensen 2003). Here, too, we see that, when Chinese engineers return to China, the structure of the industries and the positions of various types of firms in that structure affect returnees' careers.

Return Is Not a Lonely Journey

The interviews further showed that potential returnees do not respond independently to the opportunities and constraints that exist in China. Return migration is very often a group process instead of an individual process. Migrants draw heavily upon the social ties that they have established during migration. Most of these ties are developed in the host country.

Social networks have proven to be critical in facilitating the initial migration, as manifested in the chain migration of low-skilled workers (MacDonald and MacDonald 1964; Massey 1990; Massey, Goldring, and Durand 1994; Greenwell, Valdez, and DaVanzo 1997). In addition, sociologists studying labor market processes have shown that informal social networks are not only important in connecting job seekers to potential employers (Granovetter 1974; Lin 1982; Fernandez and Weinberg 1997; Yakubovich 2005) but also are critical for job performance of individuals in the workforce (Burt, Hogarth, and Michaud 2000). However, their importance in return migration has rarely been discussed, particularly among the migration of highly skilled professionals and entrepreneurs. Skilled migration is usually regarded as a highly individualized action in which individuals respond independently to opportunities arising in different geographic locations. What we have found here about the return migration of Chinese engineers shows a pattern very different from the individualistic fashion—they return in groups. Unlike academic returnees and expatriates of multinational companies, those who return to start their own businesses usually do not go back alone; they often go back with business partners. Fifteen out of the twenty-four of returned entrepreneurs that I interviewed returned with a partner/co-founder or a group of partners.

Founded in 2001, STM is now a leading Chinese integrated circuit design company that went public in NASDAQ. Its founding team consisted of about 30 returnees from the United States. Chief executive officer P. Wu is very proud of their team:

At the beginning we had around 15 people who were mostly old school buddies or former colleagues. All of us had been in the U.S. for many years and had been waiting for the right time to come back. We often got together talking about the potential move. Later on, friends brought in friends and our team grew to more than 30, when we finally decided to return. You can't imagine all the different kinds of difficulties and challenges we have encountered in this journey (to return and start a company). Without a strong team, it would have been impossible to get this far.

The size of the returning group varies from only a few people to dozens. However, the cases all share a common feature in which return migration is a well-prepared move and allies are formed among those with similar migration experience, sharing the same “New China dream,” but with diverse managerial and technical skills. The connections among team members are established in the process of migration.

Voluntary Ethnic Associations as Intermediaries

Not only do informal ties play an important role in return migration, but formal organizations do as well. It has been well established outside the international migration context that labor market institutions and the relationships among these institutions at the workplace, community, and national levels largely shape the labor market dynamics and individuals’ career and job outcomes (Kerr 1994; Kochan, Osterman, Locke, and Piore 2001). Here we find that return migration is also facilitated by a set of formal organizations, both in China and in the United States, that have developed in the process of migration. Returning to China is a process in which multiple stakeholders are actively involved and closely connected to one another. Various types of voluntary ethnic associations have become active players in this process and played two critical roles. They connect the overseas Chinese communities with key stakeholders in China, particularly government bodies, and represent migrants in collective interactions with various gatekeepers in China. They also provide a wide range of assistances to potential returnees and serve as channels through which potential returnees can share information and resources.

The motives that govern these organizations are both cultural and instrumental. They may reflect spontaneous tendencies among immigrants, although they do not reflect the kinds of family ties that are often emphasized in discussions of Chinese culture. When people return to China, they tend to draw more heavily on the new ties established in the process of migration than on family ties. But if these dense networks reflect in part the spontaneous outgrowth of certain cultural features of the migrants, they are definitely encouraged by the Chinese government, which fosters these organizations and then responds to the immigrants through these organizations, rather than directly to them as individuals when they return to China.

The Chinese business world is traditionally dominated by “Guanxi,” (i.e., relations or connections). Relations in reciprocity with various players in society are extremely important for success, either for a business or for a career, which become a challenge for new returnees, who have been uprooted from the social contexts in China for quite some years. To restart, they need not only the right information but also the acquaintance with various gatekeepers.

Voluntary ethnic associations come to play the role of the intermediaries between migrants and the gatekeepers in China (mainly government agencies) for two reasons. Chinese government finds these associations to be effective channels to reach overseas communities and relies on them to screen potential returnees. The government has been very actively reaching out to their highly skilled emigrants. Each year, hundreds of delegations comprised of representatives of various industries and government agencies are sent out to meet with overseas Chinese, with the objective to attract the “best and brightest” back to China. However, it is difficult for them to reach the migrants one by one or even get their messages delivered to the right people. Ethnic associations, which have already brought together migrants by education and background, become a good resource that the stakeholders in China can tap. Through the associations, they can not only get access to a large number of migrants but also can effectively single out the group that they want to talk to, such as bioengineers or computer engineers. J. Lin, who is a member of several overseas Chinese associations and recently co-founded a new association, commented on the values of these organizations:

In this society, you have to make friends before starting to do business. If you come back alone, you may need to start making friends with a section chief (the lowest rank in the government bureaucracy), and it may take you a year to finally reach a bureau chief. However, if you come back with a 30-person delegation of an overseas organization, suddenly you become visible, and the mayor’s door is open to you. They are just busy and do not have time to deal with you one by one.

Conclusion

The increasing two-way flows of skilled labor across national borders, along with the internationalization of higher education and transnational practices in production, have started to transform the landscape of highly skilled labor markets in many ways. There is an increasing need to understand the enabling mechanisms of labor flows and the emergence of new institutions in these transnational labor markets.

The data collected through multiple methods in this study enable us to capture the complexity of a particular migration flow—the return migration of Chinese engineers from the United States. The analysis shows that it is not the case that those less successful in the United States or who have more difficulty integrating choose to return. Instead, engineers whose skill sets and career orientations fit better with the opportunity structure in the home country are more likely to return. The return migration of Chinese engineers is often associated with entrepreneurship.

The study further shows that migrants are also deeply embedded in a web of social connections. The return migration of Chinese engineers is very often a group process instead of an individual process. The decision to return is often not formed by isolated individuals but by a group of engineers who return together. New forms of ethnic associations have emerged and acted as important intermediaries between migrants' communities and the gatekeepers in China. The interactions between these different players largely shape the return flows, and collective actions often characterize the movement.

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