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Research Article

Between China and the United States

Contemporary Policies and Flows of Highly Skilled Migrants

Wei Li and Wan Yu

Abstract

We are witnessing a change in volume, direction, and diversity of migrant flow patterns between China and the United States. These changes are a result of China's unprecedented level of economic growth. In this paper, we examine the migration flow of highly-skilled migrants, who are increasingly targeted by both United States and China migration policies. Finally, we will conclude with policy implications.

Introduction

Since the passage of the Immigration Act of 1965 there has been a contentious debate surrounding highly-skilled migration. Existing literature generally considers highly-skilled migrants as those who possess high levels of education and work experience that are critical to a country's economic development and competitiveness. In an increasingly globalized world, attracting highly-skilled migrants has become an international competition. Scholars use terms such as "brain drain" and "brain gain" to describe the impact of highly skilled migration on the sending and the receiving countries respectively. For example, the mass emigration of skilled migrants represents a drain on a country's economic, social, and political resources (Lee and Kim, 2010; Massey et al., 1998; Saxenian, 2005).

Since the 1980s, rapid economic growth in developing countries has resulted in a significant return of highly-skilled migrants. Thus, many scholars advocate that brain drain is not always a curse to the development of origin countries (Commander, Kangasniemi, and Winters, 2004). Instead, the return of highly-skilled migrants accomplishes a migration circulation, which can benefit both immigrant sending and receiving countries. Many scholars now adopt the term "brain circulation" to describe the "dynamic mobility of skilled

individuals who return to home countries while maintaining social and professional relationships in a host country, which in turn enhances their productivity in the home country” (Saxenian, 2005, 54). Brain circulation challenges the conventional dichotomy of brain drain versus brain gain because migration flows now move in multiple directions (Blitz, 2005; Le, 2008; Saxenian, 2002; Chen, 2007). In addition, the changing migration pattern of highly-skilled persons is not only a consequence of contemporary economic globalization, but also an important outcome of nation-state policies as they seek to maximize their economic and political advantage (Mahroum, 2005).

The United States’ Policies on Highly Skilled Migration¹

Historically, the Chinese were the first significant cross-Pacific immigrants to the United States. The Chinese Exclusion Act of 1882 became the first United States legislation barring one specific nationality and their class – that of labor – from entering the United States (Hing, 1994; Li, 2009). It is noteworthy that despite the exclusion and restriction of labor migration from China during the sixty-one-year-long exclusion era, Chinese scholars and students were not subject to exclusion. The same was true during the twenty-four-year-long Chinese Exclusion Era in Canada (Li, 2003). These scholars and students most often came with Chinese government sponsorship or with scholarships from various sources in the United States. The importance of these early international students in the United States is significant as they played a leading role in Chinese affairs (Li and Yu, 2011; Chang, 2003, 103).

The landmark Immigration and Nationality Act of 1965 eliminated discrimination against immigrants based on race or nationality. The Immigration Act of 1990 and recent policies, emphasizing employment-based and investment migration, have yielded more heterogeneous immigrants while facilitating the rapid growth of highly-skilled migration in the last two decades. Following, we will highlight some United States admission policy initiatives for immigrants and temporary migrants that specifically focus on highly-skilled migration.

The Immigration and Nationality Act of 1965 equalized immigrant quotas at 20,000 persons for all national groups in the Eastern Hemisphere, and provided two sets of immigrant categories (one for family reunion and one for employment). The family reunion category allowed family reunification for up to 80 percent of worldwide annual immigrant quota, while the employment category created

provisions for highly-skilled and well-educated individuals and other needed workers for the remaining 20 percent.

Effective October 1, 1991 (the beginning of Fiscal Year 1992), the Immigration Act of 1990 marked a major change in United States immigration admission policy. Reflecting the growing anxiety over global economic competition, the legislation drastically increased the employment-based immigrant visas by tripling its share of the annual quota to 140,000 per year. The law specified five visa subcategories within employment: 1) priority workers (EB-1); 2) professionals with advanced degrees or aliens of exceptional ability (EB-2); 3) skilled workers, professionals, and unskilled workers (EB-3); 4) special immigrants (EB-4); and 5) investors (EB-5) (Li and Lo, 2012).

Under the Immigration Act of 1990, highly-skilled migrants, however, do not all enter as immigrants but rather as “non-immigrants” such as students, trainees, or temporary workers. The student and exchange visitor categories include self-sponsored students and their dependents (F-1 and F-2 visas, respectively), exchange students and scholars, and their dependents (J-1 and J-2), and short-term non-degree-seeking students and their dependents (M-1 and M-2). Upon obtaining degrees, F-1 students can apply for Optional Practical Training (OPT) for up to twenty-nine months, during which time they can apply for a non-immigrant, temporary H1-B worker visa. Once the H1-B visa is secured, their employer can sponsor them to apply for a green card and permanent resident status (LPR).

Another hallmark of the 1990 Immigration Act is the H1-B visa for temporary workers employed in specialty occupations that require highly-specialized knowledge and at least a bachelor’s degree or its equivalent. The annual quota cap for H1-B visas has changed a number of times since 1990; increasing dramatically during economic booms and reducing to its original annual quota of 65,000 during less robust economic times. Since 2005, Congress has added an additional 20,000 annual H1-B visas for foreign students who hold master’s or doctorate degrees from United States institutions. Educational institutions and non-governmental organizations (NGOs) are exempt from the quota. H1-B visa holders, and their immediate family members, can stay in the United States for a maximum of two, three-year terms. If the H1-B visa holder is laid off from their job, however, they must leave the country within two weeks. Moreover, the spouses of H1-B visa holders, (who hold H-4 visas), cannot work legally in the United States until the H1-B visa holder applies for permanent residency. H1-B is the most hotly debated temporary

skilled migrant visa type in the United States (Park and Park, 2005). Large American high-tech companies continuously lobby the Congress to expand the program while others have argued that the program undermines economic opportunity for workers in the United States.²

Other relevant visa categories pertaining to skilled temporary workers include workers with extraordinary abilities and achievements (O-1 and O-2 visas), intra-company transferees and their dependents (L-1 and L-2; L-1 are also eligible to adjust their legal status to LPR subject to certain stipulations), and treaty traders and investors (E1 to E3). In addition to allowing the entry of dependents, these categories are not subject to numerical limitations.

Chinese Migration to the United States

Tables 1-3 highlight the trends of Chinese immigration and temporary migration flows to the United States since the enactment of the Immigration Act of 1990. Table 1 demonstrates that the majority of immigrants from China in the past two decades continue to enter under family reunification categories. However, the percentages have fluctuated from a high of 82.1 percent in 1999, to approximately 55 percent in recent years.³ A smaller percentage of Chinese immigrants enter under categories such as diversity, refugee, and asylee.

Table 2 shows that among all non-immigrant admissions, tourists and business travelers have the highest counts in all years, followed by students and exchange visitors, and temporary workers and their immediate families. Although the numbers fluctuate from year to year, combined the two categories account for approximately 20 percent of all non-immigrant admissions demonstrating a growing trend.

Table 3 indicates that within temporary worker categories, the overall H1-B visa admission numbers increased over the years even though their proportion has dropped over time. Nevertheless, H1-B visa holders constitute the largest number of Chinese who are entering the United States with a temporary work visa. The second largest number is L-1 visa holders with several thousand applicants each year, followed by other subcategories, such as athlete, artist, and entertainer, with much smaller numbers. Among all temporary visa holders, students and exchange visitors, and temporary workers are the two largest categories among Chinese citizens admitted to the United States (Tables 2 and 3).⁴

China's Migration Policies After 1949

Traditionally, the Chinese government considered emigration out of the country as an act of disloyalty to ancestors. Emigrants faced severe penalties in Ancient China (Nyiri and Savelev, 2002). A dramatic shift occurred when the People's Republic of China instituted a welcoming policy toward return migrants during the 1950s to help modernize the country. With the deepening of the Cold War, returning scientists and engineers who could build China's scientific and industrial base were in urgent need (Wang, 2010). Yet, after the Anti-Rightist Campaign in 1957, and the Cultural Revolution (1966-76), the Chinese government deemed those who left China or those who had overseas contacts as class enemies and rigidly restricted emigration altogether (Nyiri and Savelev, 2002). Even during this closed-door period, however, there were a number of esteemed foreign guests, especially foreign experts who directly contributed to the Chinese economic development and mainly came from the former Soviet Union and other Eastern Bloc countries (Pieke, 2011).

This situation lasted for almost thirty years until China's economic reform in 1978. The changes have been mainly in the form of government policies and regulations. Reportedly, Deng Xiaoping had foreseen that recruiting foreign-trained scientists would be one of the best ways to modernize China without changing the political system. On June 23, 1978, he proclaimed that China's future relied, in part, on sending students overseas "by the thousands" (Vogel, 2011). Since then, the governmental policy has encouraged other highly-skilled persons to migrate, including scholars and entrepreneurs.

In 1983, the Chinese government issued a rule to encourage the recruitment for "talented aliens," especially those of ethnic Chinese origin (Liu, 2011). Two years later, the government passed legislation to liberalize traveling abroad, which prompted a wave of new emigrants to study and work abroad, to reunite with family, and to engage in international trade.⁵ After 1992, Deng Xiaoping encouraged additional emigration for among others, self-sponsored students and Chinese workers. These policies collectively opened up China to emigration and return migration in unprecedented ways.

Since the mid-1990s, the Chinese government's migration policies have emphasized attracting highly-skilled returnees. For example, the Chinese Ministry of Education issued the Spring Sunshine Plan (春晖计划) in 1997, which mainly attracts overseas Chinese scholars to China for all-expense-paid short and intermediate stays

Table 1. Chinese Population Obtaining LPR Status by Broad Class of Admission by last residence:
Fiscal Year 1992-2010^a (number of persons)

Fiscal Year	Total	Family-Sponsored Preferences	Relative of US Citizen	% Family + relative in total LPRs	Yearly change	Employment-based Preferences	% Employment-based in total LPRs	Yearly change	Diversity	% in total LPRs	Refugee and Asylee	% in total LPRs	Other	% in total LPRs
2010	67,634	12,844	23,584	53.90%	11.30%	16,278	24.10%	63.00%	47	0.07%	14,746	21.80%	135	0.20%
2009	60,896	10,273	22,461	53.80%	-20.20%	9,986	16.40%	-24.70%	25	0.04%	18,067	29.70%	84	0.14%
2008	75,410	15,466	25,540	54.40%	1.60%	13,257	17.60%	20.90%	21	0.03%	21,082	28.00%	44	0.06%
2007	70,924	14,383	25,960	56.90%	-16.30%	10,968	15.50%	28.30%	17	0.02%	19,580	27.60%	16	0.02%
2006	83,628	15,652	32,543	57.60%	15.50%	8,547	10.20%	-52.50%	16	0.02%	26,842	32.10%	28	0.03%
2005	64,921	15,984	25,726	64.20%	31.50%	18,004	27.70%	34.80%	10	0.02%	5,166	8.00%	31	0.05%
2004	45,942	12,157	19,552	69.00%	5.90%	13,352	29.10%	104.90%	59	0.13%	809	1.80%	10	0.02%
2003	37,395	9,015	20,930	80.10%	-19.50%	6,517	17.40%	-63.70%	166	0.44%	739	2.00%	16	0.04%
2002	55,974	10,635	26,547	66.40%	23.70%	17,976	32.10%	-9.90%	104	0.19%	669	1.20%	23	0.04%
2001	50,821	8,049	22,010	59.10%	3.60%	19,945	39.20%	61.50%	8	0.02%	776	1.50%	20	0.04%
2000	41,861	11,332	17,688	69.30%	19.50%	12,350	29.50%	155.90%	3	0.01%	459	1.10%	10	0.02%

Table 1. (continued) Chinese Population Obtaining LPR Status by Broad Class of Admission by last residence:
Fiscal Year 1992-2010^a (number of persons)

1999	29,579	12,542	11,750	82.10%	5.10%	4,826	16.30%	-33.50%	7	0.02%	417	1.40%	12	0.04%
1998	31,270	11,747	11,368	73.90%	-13.30%	7,262	23.20%	-46.70%	7	0.02%	873	2.80%	10	0.03%
1997	41,500	11258	15404	64.20%	-5.10%	13629	32.80%	-21.70%	368	0.89%	706	1.70%	107	0.26%
1996	47070	14149	13939	59.70%	67.80%	17414	37.00%	35.50%	399	0.85%	951	2.00%	198	0.42%
1995	30,384	8,005	8,737	55.10%	11.50%	12,848	42.30%	-59.70%	9	0.03%	761	2.50%	24	0.08%
1994	47699	7308	7711	31.50%	-21.70%	31913	66.90%	-14.10%	10	0.02%	705	1.50%	52	0.11%
1993	57775	10061	9112	33.20%	17.30%	37131	64.30%	263.80%	10	0.02%	1057	1.80%	404	0.70%
1992	29,554	9,128	7,215	55.30%		10,207	34.50%		45	0.15%	807	2.70%	2,152	7.28%
Total	970,237	219,988	347,777			282,410					115,212		3,376	

Sources:

1. USINS/USCIS Yearbook of Immigration Statistics (1992-2008); 1992, table 9, p.46; 1993, table 9, p.46; 1994, table 9, p.46; 1995, table 9, p.48; 1996, table 9, p.48; 1997, table 9, p.46; 1998, table 9, p.49; 1999, table 9, p.49; 2000, table 9, p.49; 2001, table 9, p.49; 2002, table 9, p.35; 2003, table 9, p.34; 2004, table 9, p.32,36; 2005 table 11, p.32; 2006 table 11, p.32; 2007 table 11, p.32; 2008-2010 table 11
2. 1996-2003: <http://www.dhs.gov/ximgtr/statistics/publications/archive.shtm> [last accessed 3/02/11]
3. 2004-2007: <http://www.dhs.gov/ximgtr/statistics/publications/yearbook.shtm> [last accessed 3/02/11]
4. 2008-2010: <http://www.dhs.gov/files/statistics/publications/yearbook.shtm> [last accessed 8/08/11]

Notes: ^aData are reported by region and country of last residence; 1995-2010: China, People's Republic; 1992-1994: China, Mainland. All percentage figures are calculated by authors.

Table 2. Nonimmigrant Admissions by Broad Class of Admission among Chinese Citizens: Fiscal Year 1992-2010^a

Fiscal Year	Total	Yearly change	Tourist & Business Traveler ^b	Student & Exchange Visitor ^c	% Student exchange visitor in total non-immigrants	Yearly change	Temporary Worker and Family ^d	% Temporary worker & family in total non-immigrants	Yearly change	Diplomat & Other Representative ^e	All Other Classes and Unknown	% Skilled migrants in total non-immigrants
2010 ^f	1,038,279	42.20%	749,689	221,820	21.40%	35.20%	40,508	3.90%	30.70%	6,455	19,807	25.30%
2009 ^f	729,931	-3.10%	512,386	164,084	22.50%	31.20%	30,987	4.20%	-5.00%	6,059	16,415	26.70%
2008 ^f	753,037	9.90%	572,537	125,076	16.60%	30.70%	32,625	4.30%	-8.00%	5,732	17,067	20.90%
2007 ^f	685,026	14.90%	529,133	95,698	14.00%	35.70%	35,461	5.20%	11.20%	5,725	19,009	19.10%
2006 ^f	596,156	17.90%	476,543	70,503	11.80%	29.20%	31,879	5.30%	16.60%	5,518	11,713	17.20%
2005 ^f	505,462	-26.40%	407,311	54,574	10.80%	-33.30%	27,339	5.40%	21.40%	4,740	11,498	16.20%
2004	687,148	18.60%	550,527	81,794	11.90%	12.80%	22,525	3.30%	14.80%	5,472	26,830	15.20%
2003	579,294	-17.90%	455,334	72,526	12.50%	-18.50%	19,620	3.40%	-19.90%	3,842	27,972	15.90%
2002	705,596	-18.10%	553,638	88,946	12.60%	-7.40%	24,489	3.50%	-2.80%	4,169	34,354	16.10%
2001	861,930	-4.30%	701,655	96,056	11.10%	6.90%	25,200	2.90%	10.60%	3,992	35,663	14.10%
2000	900,749	10.70%	752,594	89,823	10.00%	17.90%	22,791	2.50%	26.60%	3,838	31,703	12.50%
1999	813,536	7.50%	686,458	76,186	9.40%	5.70%	18,005	2.20%	32.10%	3,788	29,099	11.60%
1998	756,975	n.a.	637,684	72,065	9.50%	n.a.	13,632	1.80%	n.a.	3,521	30,073	11.30%
1997	n.a. ^g	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1996	721,724	8.40%	619,039	54,347	7.50%	11.90%	8,286	1.10%	23.50%	2,855	37,197	8.70%
1995	665,632	8.20%	571,944	48,586	7.30%	-7.10%	6,708	1.00%	19.40%	2,420	35,974	8.30%

Table 2. (continued) Nonimmigrant Admissions by Broad Class of Admission among Chinese Citizens: Fiscal Year 1992-2010^a

1994	615,250	10.10%	523,790	52,327	8.50%	9.60%	5,616	0.90%	1.90%	2,814	30,703	9.40%
1993	558,648	19.10%	475,440	47,745	8.50%	0.50%	5,509	1.00%	-1.00%	2,442	27,512	9.50%
1992	469,211		385,535	47,525	10.10%	n.a.	5,567	1.20%	n.a.	2,472	28,112	11.30%
Total	10,875,374		10,161,237	1,173,777			305,252			63,340	470,701	13.60%

Sources:

1. USINS/USCIS Yearbook of Immigration Statistics (1992-2008)

1992, table 39, p.104,106; 1993, table 39, p.104,106; 1994, table 39, p.104,106; 1995, table 38, p.110,112; 1996, table 38, p.116,118; 1998, table 38, p.133,137; 1999, table 36, p.133,137; 2000, table 36, p.145,149; 2001, table 36, p.147,151; 2002 table 25, p.107,111; 2003 table 23, p.90,94; 2004 table 23, p.81,85,89; 2005 table 29, p.78; 2006 table 29, p.78; 2007 table 26, p.68, table 28, p.77; 2008-2010 table 28

2. <http://www.dhs.gov/ximgrn/statistics/publications/archive.shtm> (1996-2003) [last accessed 3/02/09]

3. <http://www.dhs.gov/ximgrn/statistics/> (2004-2007) [last accessed 3/02/09]

4. <http://www.dhs.gov/files/statistics/publications/yearbook.shtm> (2008) [last accessed 8/08/09]

Notes:

^a Data are reported by region and country of citizenship. Admissions represent counts of events, i.e., arrivals, not unique individuals.

^b Before 2004, data includes B1, B2, GB, GT, WB and WT admissions; since 2005, data includes B1, B2, GB, GT, WB, WT and a limited number of Border Crossing Card(BCC) admissions.

^c For the year of 2008, 2007 and years before 2004, data includes principals, spouses, and children (F1, F2, J1, J2, M1, and M2 admissions); for the year of 2005 and 2006, data includes principals, spouses, and children (F-1 to F-3, J-1, J-2, and M-1 to M-3 admissions).

^d Before 2001, data includes principals, spouses and children (E1, E2, H1A, H1B, H1C, H2A, H2B, H3, H4, I1, L1, L2, O1 to O3, P1 to P4, Q1 to O3, R1 and R2 admissions); for the year of 2002 and 2003, data includes principals, spouses and children (E1, E2, H1A, H1B, H1C, H2A, H2B, H3, H4, I1, L1, L2, O1 to O3, P1 to P4, Q1 to O3, R1, R2, TB, TC, TD and TN admissions); for 2004, data includes principals, spouses and children (E1, E2, H1A, H1B, H1C, H2A, H2B, H3, H4, I1, L1, L2, O1 to O3, P1 to P4, Q1 to O3, R1, R2, TB, TC, TD and TN admissions); since 2005, data includes principals, spouses and children (E1 to E3, H1B, H1B1, H1C, H2A, H2B, H2R, H3, H4, I1, L1, L2, O1 to O3, P1 to P4, Q1, R1, R2, TD and TN admissions). Due to the complexity of the data, we approximate Chinese migrants in 'temporary workers and family' category as skilled migrants, as the population of Chinese seasonal agricultural migrants in H2A, H2B visa are relatively small.

^e Includes principals, spouses, and children (A1 to A3, G1to G5, and N1 to N7 admissions).

^f For the years 2005-2008, China includes the People's Republic of China, Hong Kong, and Macau. For the years before 2005, China includes People's Republic of China and Taiwan.

^g n. a. = data unavailable. "Data for fiscal year 1997 is not available due to data inconsistencies resulting from the reengineering of both the data entry and data base management components of the Nonimmigrant Information System." (1997 yearbook, p.110) All percentage figures are calculated by authors.

Table 3. Chinese Nonimmigrant Temporary Worker Admissions (I-94 Only): Fiscal Year 1992-2010

Fiscal Year	Total Temporary Worker Family ^a	Workers in Specialty Occupations (H1-B) ^b	Yearly Change	% H-1B in Total Chinese Temporary Worker	% Chinese H1-B in Worldwide Total	Intra-Company Transferee (L-1) ^b	Yearly Change	% L1 in Total Chinese Temporary Worker	Athlete, Artist, and Entertainer (P1 to P3) ^b	Worker with Extraordinary Ability/Achievement (O1, O2) ^b	Treaty Trader & Investor (E1 to E3) ^{b,c}
2010 ^d	40,508	19,493	50.90%	48.10%	4.29%	7,923	27.90%	19.60%	2,106	611	872
2009 ^d	30,987	12,922	-6.60%	41.70%	3.81%	6,196	-6.20%	20.00%	1,791	620	554
2008 ^d	32,625	13,828	-16.80%	42.40%	3.40%	6,607	10.40%	20.30%	1,850	756	573
2007 ^d	35,461	16,628	14.30%	46.90%	3.60%	5,982	17.00%	16.90%	1,871	620	617
2006 ^d	31,879	14,548	23.30%	45.60%	3.40%	5,115	20.10%	16.00%	2,184	704	729
2005 ^d	27,339	11,801	-19.40%	43.20%	2.90%	4,259	-10.80%	15.60%	1,493	459	769
2004	32,273	14,636 ^e	17.10%	45.40%	3.70%	4,775	14.00%	14.80%	1212	375	n.a.
2003	26,820	12,501	-21.10%	46.60%	3.50%	4,187	-8.40%	15.60%	1038	399	n.a.
2002	32,911	15,838	-7.90%	48.10%	8.00%	4,572	0.00%	13.90%	1354	399	n.a.
2001	34,285	17,192	15.60%	50.10%	5.20%	4,570	0.10%	13.30%	1125	411	n.a.
2000	31,979	14,874	30.90%	46.50%	5.80%	4,567	2.70%	14.30%	1611	363	n.a.
1999	26,350	11,367	46.70%	43.10%	3.80%	4,449	-13.30%	16.90%	1145	269	n.a.
1998	23,642	7,746	n.a.	32.80%	3.20%	5,134	n.a.	21.70%	1029	177	n.a.
1997 ^f	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1996	20,581	4,377	n.a.	21.30%	3.00%	8,281	n.a.	40.20%	845	119	n.a.
1995	17,739	3,497	28.50%	19.70%	3.00%	6,759	56.50%	38.10%	677	49	n.a.

Table 3. (continued) Chinese Nonimmigrant Temporary Worker Admissions (I-94 Only): Fiscal Year 1992-2010

1994	14,695	2,721	-1.00%	18.50%	2.60%	4,319	42.60%	29.40%	591	62	n.a.
1993	13,585	2,749	0.70%	20.20%	3.00%	3,029	24.70%	22.30%	655	43	n.a.
1992	12,823	2,731	n.a.	21.30%	2.50%	2,430		19.00%	220	7	n.a.
Total	340,694	152,398				79,035			18,900	5,212	n.a.

Sources:

1. USINS/USCIS Yearbook of Immigration Statistics (1992-2008) 1992, table 39, p.104, table 41, p.110,113; 1993, table 39, p.104, table 41, p.110,113; 1994, table 39, p.104, table 41, p.110, 113; 1995, table 38, p.110, table 40, p.116, p.119;1996, table 38, p.116, table 40, p.122,125; 1998, table 38, p.133, table 40, p.143,147; 1999, table 36, p.133, table 38, p.143, 147;2000, table 36, p.145, table 38, p.155;1999; 2001, table 36, p.147, table 38, p.162,166; 2002 table 25, p.107, table 27, p.122,126; 2003 table 23, p.90, table 25, p.105,108; 2004 table 23, p.81, table 25, p.106,109; 2005 table 33, p.91; 2006 table 33, p.86; 2007 table 32, p.86; 2008-2010 table 32
2. <http://www.dhs.gov/ximgrn/statistics/publications/archive.shtm> (1996-2003) [last accessed 3/02/09]
3. <http://www.dhs.gov/ximgrn/statistics/> (2004-2007) [last accessed 3/02/09]
4. <http://www.dhs.gov/files/statistics/publications/yearbook.shtm> (2008) [last accessed 8/08/09]

Notes:

- ^a Before 2001, data includes principals, spouses and children (E1, E2, H1A, H1B, H1C, H2A, H2B, H3, H4, I1, L1, L2, O1 to O3, P1 to P4, Q1 to Q3, R1 and R2 admissions); for the year of 2002 and 2003, data includes principals, spouses and children (E1, E2, H1A, H1B, H1C, H2A, H2B, H3, H4, I1, L1, L2, O1 to O3, P1 to P4, Q1 to Q3, R1, R2, TB, TC, TD and TN admissions); for 2004, data includes principals, spouses and children (E1, E2, H1A, H1B, H1C, H2A, H2B, H3, H4, I1, L1, L2, O1 to O3, P1 to P4, Q1 to Q3, R1, R2, TB, TC, TD and TN admissions); since 2005, data includes principals, spouses and children (E1 to E3, H1B, H1C, H2A, H2B, H2R, H3, H4, I1, L1, L2, O1 to O3, P1 to P4, Q1, R1, R2, TD and TN admissions).
- ^b Includes principals and dependents.
- ^c Before 2005, data for E1 visa was not available; since 2005, data includes E1 to E3.
- ^d For the years 2005-2008, China includes the People's Republic of China, Hong Kong, and Macau. For the years before 2005, China includes People's Republic of China and Taiwan.
- ^e Data includes H1B and H1B1.
- ^f n.a. = data unavailable. "Data for fiscal year 1997 is not available due to data inconsistencies resulting from the reengineering of both the data entry and data base management components of the Nonimmigrant Information System." (1997 yearbook, p.110)
- ^g The above data on immigration are reported by region and country of citizenship. Admissions represent counts of events, i.e., arrivals, not unique individuals. All percentage figures are calculated by authors.

at universities, government enterprises, and industrial parks. Targeted fields include strategic disciplines in China such as engineering and applied sciences.

More recently, Chinese government policies for attracting global talents have become more flexible and multifaceted. For example, the Chinese Central Government in 2008 implemented the effective, Recruitment Program of Global Experts (千人计划). Rather than attracting overseas Chinese scholars for short-term stays, this plan seeks to lure overseas scholars to return and settle permanently in China. This program plans to recruit approximately 2,000 overseas Chinese scientists and experts in scientific and technological fields to work in major government-funded projects, educational institutions, government-owned enterprises, and regional industrial parks. Many provincial and local governments in China also implemented similar policies for their regional development. In the same year, the Chinese government also carried out the CheungKong Scholars Programme (长江学者奖励计划) to provide research funding for outstanding scholars, especially for returning scholars, with the maximum amount of one million RMB (U.S. \$170,000).

Return Migration, Brain Circulation, and Their Impacts

The geography of the highly-skilled global migration is changing. Whereas the United States remains the most powerful nation and the largest recipient of highly-skilled migrants, other economic and geopolitical powers are emerging, including Brazil, Russia, India, and China, which combined, constitute 40 percent of the world's population. Their emergence has changed the global landscape of power dynamics, especially in the aftermath of the recent global economic downturn.

China's booming economy provides an increase in job prospects for highly-skilled workers, as well as promising opportunities for start-up businesses, thus attracting highly-skilled migrants to return. In addition, family ties and responsibilities have motivated many overseas Chinese to return (Du, Wang, and Luo, 2009). Chinese governmental policies also play an important role in attracting highly-skilled professionals. For example, the Hundred Talents Program created by the Chinese Academy of Science in 1994 has resulted in the return of 1,569 distinguished overseas Chinese scholars to China to conduct research in national labs or universities.⁶

Given the emphasis on education, one of the most common occupations for skilled returnees is a faculty position at a university.

Degree holders from developed countries, including those from the United States or some European countries, are in high demand in China. In 2001, 81 percent of the members of the Chinese Academy of Science, 54 percent of the members of the Chinese Academy of Engineering, and 78 percent of Chinese university presidents had overseas education experiences (Wang, 2009).

Highly-skilled returnees, especially those in applied and technical fields, are also actively involved in China's economic development. The booming economy provides unprecedented opportunities for them to open businesses or to find professional positions. As a result, many of them have become key business leaders in their fields. In 2006, the Chinese government's official website appraised the ten most successful, highly-skilled returnees based on their career achievements in the market, and claimed that, "foreign educational experience is a real asset."⁷ Among them were Mr. Li Yanhong, CEO of Baidu.com, the largest Internet search engine in China, who received his master's degree from SUNY, Buffalo; Dr. Zhang Chaoyang, CEO of sohu.com, the largest portal website in China, who received his doctoral degree from Massachusetts Institute of Technology; and Dr. Tian Suning, general manager of China Unicom, the largest telecom company in China, who received his doctoral degree from Texas Tech University.

An educational background from the United States also assists some returnees in their political career development. Although the representation of returnees among China's governmental officials is relatively low, their impact is nevertheless important. Publically available data demonstrates that out of the twenty-nine current Chinese leaders at a vice ministry or higher level in 2011, eighteen had academic degrees from western countries (twelve are Ph.D.s) including seven from the United States (see Appendix 1).

It is noteworthy that the aforementioned cases are often early returnees who were academics or other elites in Chinese society with the talent and the connections to go abroad. However, not all the 497,400 returnees from 1978 to 2009 have similar experiences or have made the same impact. In general, current returnees face a much less favorable environment than the earlier returnees. Since 2003, much larger cohorts of Chinese-trained college graduates have entered the job market annually and today the annual college graduates have grown to about three millions. In 2004, a study demonstrated that 71.3 percent of new returnees did not find a job for six months and another 10.2 percent were still jobless after a year. Unlike the earlier returnees that received Chinese government sponsorship and who were societal

elites, around 90 percent of Chinese students overseas in the early- and mid-2000s were self-funded and had diverse backgrounds.. In light of the growing number of unemployed returnees with college and post-graduate degrees, the Chinese have begun to question the value of overseas credentials.⁸ Despite their doubts, returnees from the United States still enjoy tremendous economic and social privileges in a country that views having lived, studied, and worked in America as “the real asset” in a globalizing world.

Conclusion and Policy Implications: Close Door, Open Door, Revolving Door?⁹

In immigration studies, scholars have coined the term “brain circulation” to specifically describe multidirectional and networked migration flows of highly-skilled migrants. The highly-skilled migrants moving between China and the United States fit in this circular pattern. A large number of highly-skilled migrants from China arrived in the United States after China’s open-door policy started in 1979, and in recent decades the return migration of highly-skilled migrants has greatly increased.

The circulation of highly-skilled migrants between China and the United States represents the brain circulation of professionals, which under the right policy incentives and economic context can be beneficial to both sending and receiving countries. China sends students and skilled workers to the United States and after years of study and work experience, the highly-skilled migrants return to China. From brain drain to brain circulation, China is reversing its longstanding human capital loss by regaining and upgrading its human resource. Furthermore, brain circulation is beneficial to the United States by providing a greater network and access to China’s vast and growing economy. If managed effectively, this exchange will increase American soft power, in China, thus paving a new road for China-U.S. relations.

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Notes

1. Part of this section is adapted from Li, W and L. Lo 2009 Highly-skilled Indian Migration in Canada and the US: the Tale of Two Immigration Systems." International Migration and Diaspora Studies Working Paper Series 4-6: 1-24, New Delhi, India.
2. Steve Hamm and Moira Herbst, "America's High-Tech Sweatshops." Business Week. October 1, 2009. http://www.businessweek.com/magazine/content/09_41/b4150034732629.htm (accessed October 27, 2010).
3. Fiscal years 1993 and 1994 involve a peculiar situation as a result of the 1993 Chinese Student Protection Act signed by President Clinton. All Chinese citizens that arrived prior to April 11, 1990, were permitted to adjust their status to LPR, including all Chinese students and exchange scholars at the time.
4. Nonimmigrant data presented in Table 2 and 3 are based on I-94 entry data. Per USCIS, 'Admissions represent counts of events, i.e., arrivals, not unique individuals'. This is, if the same individual entered and exited from the U.S. multiple times in a particular fiscal year, they are counted by the number of entries not as one individual. Thus, this publically available data is incompatible with immigrant data and should be used with caution.
5. <http://news.163.com/special/reviews/overseasreturnee.html> (accessed January 21, 2012).
6. <http://www.cas.cn/ggzy/rcpy/brjh/> (accessed January 21, 2012).
7. "China's Top Ten Most Successful Returnees: Overseas Study Experiences are True Assets"中国十大最成功“海归”：留学经历是真正的财富http://news.xinhuanet.com/overseas/2006-02/07/content_4147976.htm (accessed October 27, 2010).
8. <http://news.163.com/11/1226/10/7M6OT5EL00012Q9L.html> (accessed January 21, 2012).
9. See Lo 2011.

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Appendix 1. Educational Background of High-ranking Chinese officials

Position	Name	BA/BS	MA/MS	Ph.D.
President	Hu Jintao	Tsinghua University	Tsinghua University	NA
Vice-President	Xi Jinping	Tsinghua University	Tsinghua University	NA
Premier	Wen Jiabao	Beijing Institute of Geology	Beijing Institute of Geology	NA
Vice-Premier	Li Keqiang	Peking University	NA	Peking University
Vice-Premier	Hui Liangyu	Agricultural School of Jilin Province	NA	NA
Vice-Premier	Zhang Dejiang	Kim Il Sung University, North Korea	NA	NA
Vice-Premier	Wang Qishan	Northwest University, USA	NA	NA
State Councilor	Liu Yandong	Jilin University	NA	Jilin University
State Councilor	Liang Guangjie	Henan University	NA	NA
State Councilor, Secretary-General	Ma Kai	Renmin University of China	Renmin University of China	NA
State Councilor	Meng Jianzhu	Shanghai Mechanical Engineering Institute	Shanghai Mechanical Engineering Institute	NA
State Councilor	Dai Bingguo	Sichuan University	NA	NA
President of Chinese Academy of Sciences	Lu Yongxiang	NA	NA	Aachen Industrial University, Germany
Minister of Education	Zhou Ji	NA	NA	SUNY, Buffalo
Vice Minister of Education	Wu Qidi (f)	NA	NA	Sulites Institute of Technology, Switzerland
Vice Minister of Education	Zhang Xinsheng	NA	Harvard University, Colorado State University	NA
President of China Academy of Agriculture	ZhaiHuqu	NA	Birmingham University	NA

Chair, China Securities Regulatory Commission	Liu Mingkang	NA			University of London	NA
Vice President of Supreme People's Court	Wan Xiaogang	NA			NA	Yale University
Vice Minister of Agriculture	Zhang Baowen	NA			University of Minnesota	NA
Vice Minister of Personnel	Wang Xiaochu				Simmons College	
Vice Minister of Land Resources	Wang Min	NA			NA	Technical University at Braunschweig (joint degree), Germany
Vice Minister of Family Planning Commission	Zhao Baige (f)	NA			NA	Oxford University
Vice Minister of Commerce	Gao Hucheng					Paris No. 7 University
Vice Minister of Science & Technology	Ma Songde	NA			NA	Paris No. 6 University, France
Vice Minister of Water Resources	Jiao Yong	NA			NA	Imperial College London, UK
Vice Minister of Science & Technology	Cheng Jinpei	NA			NA	Northwestern University
Vice Minister, Water Resources	Suo Lisheng	NA			NA	University of Michigan
Vice Minister, National Science & Technology Defense Commission	Sun Lailian	NA			NA	French National Science Laboratory, France

Sources:

http://english.gov.cn/2007-10/29/content_24084.htm

http://english.gov.cn/2008-03/17/content_922549.htm

Li, C., The Status and Characteristics of Foreign-Educated Returnees in the Chinese Leadership, China Leadership Monitor. No.16, pp1-21,

Table 5

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