

## Tsinghua University and the Asian Student Immigration Experience

According to the INS, 698,595 student visas were issued in 2001. Of those, 395,511 were from Asian countries (INS, 2001 Statistical Yearbook: Table 36). This represents more than half of the foreign students entering the United States. A student visa is the number two method by which Asians enter the United States (after temporary visitors for business and pleasure). Foreign students are characterized by a high number of Asians, and Asian immigrants are characterized by a high number of students. These two patterns have held true for many decades and have had a profound affect on academics in Asia and the United States, the development of Asian economies, and the experience of Asian minority in the United States.

As reported by the INS, the top four countries of origin for international students are Japan (95,201), China and Taiwan (73,823), Korea (63,646), and India (48,809). Surprisingly, those countries all send more students than the United States' close neighbors Mexico (18,659) and Canada (18,502). In 2001-02, foreign students accounted for 4.3% of the U.S. college student population and the overrepresentation of Asian nationalities is just as prominent at the university level, as reported by the Institute for International Education (see Table 1).

<b>Place of Origin</b>	<b>2000/01</b>	<b>2001/02</b>	<b>% Change</b>	<b>% of Total</b>
<i>World Total</i>	547,867	582,996	8.0	
India	54,664	66,836	22.3	11.5
China	59,939	63,211	5.5	10.8
Korea, Republic of	45,685	49,046	7.4	8.4
Japan	46,497	46,810	0.7	8.0
Taiwan	28,566	28,930	1.3	5.0
Canada	25,279	26,514	4.9	4.5
Mexico	10,670	12,518	17.3	2.1
Turkey	10,983	12,091	10.1	2.1
Indonesia	11,625	11,614	-0.1	2.0
Thailand	11,187	11,606	3.7	2.0
Germany	10,128	9,613	-5.1	1.6

Table 1: University Students in the United States (Open Doors 2002)

Foreign students come to the United States to study in many different areas, but a majority pursue technical fields where the language barrier is not as much of a factor. 35.4% of foreign students study science or engineering, another 19.7% pursue business, and 7.7% study social sciences (IIE Open Doors). It is not surprising then, that Caltech has a very large international student population. 40% of the graduate student population is international. Of those international students, 138 are from China. Of the students from China, more than 25 come from a single university. I interviewed 10 Caltech students who attended this school, Tsinghua University in Beijing, in an attempt to learn more about Chinese student immigration to the United States.

### *Tsinghua University*

Tsinghua Academy was established in the northwestern suburbs of Beijing in 1911 by the government of the United States. Funding for the school came from money paid by the Chinese government as part of an indemnity for losing the Boxer Rebellion, and the Americans ran Tsinghua as a preparatory school for the explicit purpose of sending students to the United States. “This type of operation,” the president of the University of Illinois wrote to Teddy Roosevelt in 1910, “is more useful than an army” (Hinton, p21). The school eventually transitioned to the control of the Chinese government and grew to incorporate a university section and a graduate school, but the tradition of sending students across the Pacific continued.

In 1949, after a bitter civil war, the People’s Republic of China was founded and in 1952, the new communist government directed Tsinghua University to become a multidisciplinary polytechnic institution with an emphasis on training engineers. Many of the Tsinghua faculty fled to Taiwan with the Nationalist government and in 1956, they established National Tsing Hua University in Hsinchu, a small town south of Taipei.

The Tsinghua in China began sending its students to the Soviet Union while the Tsing Hua in Taiwan maintained the traditional relationship with the United States. The Boxer indemnity money went towards sponsoring Taiwanese students, and paid for over 1000 students to study in the United States. Through the 1960’s and 70’s, the school focused on nuclear science and technology and was a driving force in the rapid growth of

the Taiwanese economy. Currently, Tsing Hua in Hsinchu enrolls about 6100 students (60% undergrad) and has about 500 faculty members.

After Richard Nixon's 1972 visit to China and Mao's 1976 death, China began a drive towards modernization that resulted in a decision to resume the exchange of students with the United States in 1978. Tsinghua figured prominently in this renewed exchange, which was tightly controlled by the Chinese government. 1978 was also the beginning of a major expansion of the entire Chinese education system and Tsinghua grew from a school of 2,800 during the Cultural Revolution to a present day enrollment over 20,000 students (60% undergrad) and 2100 faculty members.

In Taiwan and China, each Tsinghua has sent more of their students to the United States than any other university. The reasons for this are simple, as Tsinghua has a unique historical tie with the United States and a focus on science and engineering, which is a popular choice for foreign students in America. In the 1970's, alumni estimated that about half of Tsing Hua graduates from Taiwan would go to the United States. That number has been declining steadily and is down to about 15% today. Recent alumni estimate that Tsinghua in China sent 60% of its graduates to the United States in the mid-1990's and around 30% at the present time.

### *Why They Come*

When asked why they came to the United States, many Tsinghua alumni named particular famous Chinese scientists who had gone to the United States as inspiration to pursue their studies abroad. The earliest and most famous of these were Chen Ning Yang and Tsung-Dao Lee, who shared the 1957 Nobel Prize in Physics. Yang was a graduate of Tsinghua and both physicists went to the University of Chicago in the 1940's with Chinese government scholarships. Daniel C. Tsui, co-recipient of the 1998 Nobel Prize in Physics, wrote, "Yang and Lee were the role models for Chinese students of my generation and going to the University of Chicago for a graduate education was the ideal pilgrimage" (Nobel web site). Professor Tsui, now at Princeton, has served as inspiration for a new generation of Chinese students.

The 1986 Nobel Prize for Chemistry was also awarded to a Tsinghua University alumnus, Yuan T. Lee. He received a Master's Degree in 1961 and went on to the

University of California at Berkeley where he earned his Ph.D. in 1965. The 1976 Nobel Prize for Physics was shared by Samuel C.C. Ting, a second-generation Chinese-American who was the child of two professors who both came to the United States to study. Steven Chu of Stanford, co-recipient of the 1997 Nobel Prize in Physics, was also the child of two Chinese scholars. In fact, even his grandfather had come to the United States to earn a PhD.

These men are the paragons of Chinese scientific achievement, and the fact that they all came to the United States to study has inspired a steady stream of students to follow in their footsteps, especially in Physics. A 1972 alumnus from Taiwan remarked that 30 out of the 45 Physics graduates in his class came to the United States. A 2000 graduate from China observed that 50 out of 60 Physics graduates in his class were currently in America. A large proportion of the current science and engineering faculty at Tsinghua have studied in the United States and going to America for graduate school has become a part of the academic culture. Of the Chinese students in the United States, more than 80% are studying at the graduate level. This is in stark contrast to Japan, where only 20% are graduate students, and Korea, where less than 48% are graduates. The percentage for Taiwanese students was once similar to that in China but has now dropped to 55%. The reasons for these differences are largely economic. Undergraduate education can be very expensive and only more affluent countries have citizens that can afford undergraduate tuitions.

Almost all the students interviewed cited financial reasons for choosing to come to the United States. In contrast with the U.K., American universities are able to offer scholarships and financial aid to cover the full costs of a graduate education. Japan also provides similar financial support and is a popular destination for Chinese students, but English is quickly becoming the second language of choice in China and the United States has gained a privileged status as the top destination for Chinese graduates.

The fact that many Chinese students are already in the United States is also a strong draw, as student immigrants can expect to be welcomed into a very strong social network. On Caltech's campus, this is very apparent in the strength of the Caltech C, a club for Chinese students that goes as far as sending drivers to the airport to pick up all new student arrivals from China every September. The presence of not only Chinese

students but students from a variety of countries is also a strong draw, as foreign students in the United States have less fear of being singled out or discriminated against. At Caltech, 40% of the graduate population is foreign, which appears to be close to the national average for science and engineering students, which was estimated at 37% from Institute for International Education data and an extrapolation of the number of science and engineering students from the National Center for Education Statistics.

No Chinese graduate students indicated any active recruitment by Caltech, but one remarked that he knew of a few Chemical Engineering departments that “always enroll students from Tsinghua.” With the momentum to study in the U.S. so strong, it seems that any active recruitment is unnecessary – professors in China and the United States are already providing the push and pull factors without much action by government entities. In the age of the internet, the pull from foreign students already in the United States crosses the ocean with ease, as Tsinghua alumni share tips with current students for applying to American graduate school online on sites like <http://www.smth.edu.cn/>.

### *Why They Stay*

Student visas are only for a temporary stay in the United States, but many students remain in the United States after graduation. A National Science Foundation study found that 63% of all foreign science and engineering students have plans to stay in the U.S. after received their PhD's (Szelenyi, 2003). Among 1990-91 doctoral recipients, 88% of Chinese science and engineering students were still in the United States in 1995 (Szelenyi, 2003). Among 32,663 Chinese immigrants who gained Permanent Resident status in 2001, 4,126 were students and 13,961 were temporary workers (INS). The number of students from China becoming permanent residents in 2001 was almost double the number from any other country; the 2,209 from Korea is the second-most.

The numbers are most striking for science and engineering students, and Caltech is a prime example. In the class of 2002, only 4 out of 62 graduating international students intended to return to their home countries. 24 were pursuing further education in the United States, 14 had accepted academic positions, and 10 had accepted industry jobs (CDC).

In 1995, David Zweig and Chen Changgui published a study of Chinese students' opinions about staying in America. From interviews with Chinese students across the United States, they identified several key factors affecting decisions to stay in the U.S. or return to China. They found that women were much more likely to stay in the U.S. than men, which corresponded to a less optimistic view of their opportunities for personal development in China. Also, the presence of a spouse in the United States had a significant effect on deciding to stay. The top reasons that respondents in their study cited for not returning to China were "political instability" and "political freedom." Many respondents also mentioned factors related to personal development such as lack of career advancement opportunities, poor work environment, limited job mobility, lack of modern equipment, and a low standard of living in China.

Zweig and Chen conducted their study while many students were still waiting for their green cards in the wake of Tiananmen Square, and they predicted that political concerns would subside over time. This was very apparent in my interviews, as no students harbored strong political views. None of them were married and although none had concrete plans to stay or to return to China, most thought they would stay in the United States for at least a few years after graduation and their concerns centered on their academic and professional careers.

### *Effects of Asian Student Immigration*

Although Asian immigrants make up only 27% of new permanent residents in 2001, they accounted for 62% of the students adjusting to permanent status and 73% of the temporary workers. These programs were originally designed to reward immigrants with particular skills, but have disproportionately benefited Asians over the years. This is certainly an unintended consequence of the Hart-Cellar Act, but it is one of the driving forces behind the "model minority" status of Asians in the United States today.

Whereas some minority groups are perceived to be poor laborers, Asians are seen as middle class scholars and professionals. Although this certainly doesn't generalize to all Asians, more than one-third of new permanent residents fall into these two categories. In the past, this ratio was likely even higher, as Asians are only recently beginning to benefit from family reunification policies as their numbers have grown. In contrast, other

immigrant groups, such as Mexicans, who had already settled in the United States in large numbers prior to 1965, were able to immigrate at a high rate under the policy of family reunification. All the students I interviewed were the first in their family to come to the United States and are following in the footsteps of the older generation of Asian immigrants that established the “model minority” image that persists today.

It is not only the Asian minority, but American society as a whole has reaped benefits from this modern Asian immigration. Asian scholars have made contributions to American academia and Asian professionals have been an important asset to the U.S. economy. This open exchange has also helped foster trade between the United States and the vast markets of Asia. All the ethnic Chinese who have won Nobel Prizes in the sciences performed their research in the United States. The U.S is the destination of choice for the top scientists from Asia. These scholars generally receive most of their education in Asia, often through public education. A Soviet Union report in 1977 estimated that the United States absorbed 220,000 foreign experts between 1972 and 1977 thus saving \$15-20 billion in educational investment (Zweig, p65).

One study estimated that India transferred \$51 billion in human capital to the United States from 1976 to 1985 (Zweig, p65). On the surface, this represents an extraordinary loss for Asian countries, commonly known as a “brain drain” (Zweig). However, the very countries for which the brain drain has been the worst over the past half-century are also the countries that have developed some of the strongest modern economies. Japan, Taiwan, and South Korea were the early leaders in scholarly exchanges, and they all have burgeoning high-tech industries. An investigation into the science and engineering departments of top universities in Asian countries, particularly National Tsing Hua University in Taiwan, reveals that a large proportion of faculty members earned their PhD’s in the United States. While many students are lost to the United States, a sizeable number also return to Asia and often take prominent positions in their home countries.

There is a surprising amount of variation between Asian countries regarding student immigration, and it is interesting to investigate some of the forces behind the discrepancies. At the present time, Japanese students in America are primarily undergraduates (67.5%), and a vast majority of them return to Japan at the end of their

studies. Korean and Taiwanese students are about half graduate students (48.3% and 55.0%), and a shrinking minority is staying in the United States (Zweig). Chinese and Indian students are primarily graduate students (80.6% and 74.4%, IIE Open Doors), and most stay in the United States. However, that percentage is starting to dip as well as China and India follow the established pattern of Japan, Taiwan, and Korea.

When a country first begins sending students to the United States, they tend to be graduate students because graduate students can more easily earn fellowships and other funding for graduate education. This initial period is accompanied by a low rate of return back to the home countries as the students generally find a more comfortable life and better career opportunities in the United States. This is the situation that India and China are in right now. However, in parallel with the scholarly exchanges, the economies of Asian countries have modernized. As the countries become richer, more undergraduates are able to pay their way to the United States and more returning scholars are able to find work at home, increasing the return rate. Korea and Taiwan are now in this stage. Japan is an example of the final step in this process, where the economy is comparable to that of the U.S. and the exchange of students stabilizes into one where most of the students are undergraduates and almost all return to Asia after graduation.

### *Immigration Policy*

The United States has had a relatively stable policy regarding foreign students for the latter half of the 20th century. There are two types of visas that foreign students receive: F-1 and J-1. The F-1 visa is specifically for foreign students and simply requires approval from an accredited school in the United States. A J-1 visa is designated for visiting scholars, which encompasses some foreign students but also includes researchers, teachers, trainees, and visiting faculty. J-1 visas may be requested by many different schools and institutions, but most J-1 visa holders are subject to the “two-year rule,” which specifies that the person must reside outside the United States for two years following the expiration of their visa. In addition, the INS issues F-2 and J-2 visas for family members of foreign students.

Asian students did not start coming to the United States in large numbers until the visa ceiling for Asians was lifted in 1961 (Tichenor). Since 1965, it has been relatively

easy for foreign students to transition from student to work visas and begin the path to naturalization. Since the 1980's, the INS has become even more liberal in its policies, allowing many students to transition from J-1 to F-1 visas and issuing a larger number of F-2 and J-2 visas (Zweig, p48). The lax policies seem to indicate that the United States has recognized the benefits of foreign students becoming citizens and has not made it difficult for the students to make that transition.

With the very student-friendly U.S. policies in place since 1965, it has been conditions in the Asian countries of origin that have had the greatest effect on flows of student immigrants. It is once again useful to consider the case of Tsinghua University and the policies of China and Taiwan regarding sending students abroad over the past few decades.

As soon as Asian visas became plentiful in the 1960's, the government of Taiwan began to encourage students to go to the United States to study, and many immigrated to the United States permanently. Of the 16,825 students that came to the United States between 1960-1969, only 561 returned to Taiwan (Liao). The Taiwanese government recognized this extraordinary loss, but it was not a large concern. A high-ranking Ministry official revealed, "In fact, we purposely encourage our brain to drain and we are content with this so-called severe phenomenon. The Kuomintang rule could not contain such potential intellectual elements, particularly those dissident ones, in this small island, not only socially and economically but also militarily and politically" (Liao). Over time, the Taiwanese government became more democratic and the economy grew more technologically advanced. Taiwan was the leading sender of students to the United States up until 1987, when 35 years of Taiwanese martial law ended. Since the early 90's, student immigration from Taiwan has been on a steady decline as the political climate has stabilized and employment opportunities for professionals have improved. In addition to the changing political and economic climate, the Taiwanese government has actively recruited its scholars to return, offering subsidies for travel, help in job placement, and assistance in business investment (Zweig, p75).

Student exchanges with China began in 1978 with the signing of the Sino-American Understanding on Educational Exchanges. The early exchanges were tightly controlled by the Chinese Ministry of Education, but became decentralized in 1985 when

universities were allowed to initiate exchanges using their own funds. This resulted in a dramatic rise in the number of Chinese students going to America, which grew from about 6,000 in 1984 to over 14,000 in 1988, when China surpassed Taiwan as the leading sender of students (Orleans, p10). Leo Orleans estimated that among F-1 visa holders, 8,000 had stayed in the United States and 7,000 had returned to China between 1979 and 1987. However, the percentage of returnees began to fall precipitously after 1987, when Yang Wei, a returning student, was jailed for articles he had written criticizing the Chinese government while at the University of Arizona. Also that year, the Chinese government tightened its policy on going abroad. The number of applications for visa extensions from Chinese students rose 22 percent from 1986 to 1987 (Zweig, p21). These events climaxed in 1990, when President Bush's executive order following the Tiananmen incident granted permanent resident status to almost 50,000 Chinese students.

With this single incident dominating the statistics, China experienced rates of return below 5% into the 1990's (Zweig, p85). This is similar to the pattern of Taiwanese students during the 1960's and, just as with Taiwan, political stability in China is starting to bring the return rate back up. The smooth transition of power after Deng Xiaoping's death, an increasingly liberal and capitalist society, and the burgeoning Chinese economy have made return to China much more palatable. China's government has also adopted strategies to entice students to return, instituting preferential housing policies for returned PhD's and constructing new research facilities (Zweig, p76). In the words of one of my interviewees, "As my observation on this issue, there is a great difference in the Chinese students who came in the recent years and those who came before. Most of the "old" Chinese students, as far as I know, would definitely stay in America, no matter how hard the life will be, even with discrimination by their boss. But many "new" Chinese students just don't care. They can quit and go back to China and get a job, even without graduation..."

### *Conclusion*

Asian students, particularly those in science and engineering, seem to come to the United States without much trepidation. For most of them, the trip across the Pacific for graduate school is a logical step in their education and they simply follow in the footsteps

of the thousands that have come before them. In some respect, the United States has gained a privileged status in the Asian education system, where making it to America is something that Asian students strive to achieve.

This is especially true in China and Taiwan, where the legacy of schools like Tsinghua University have institutionalized America's academic reputation. In the 1950's, the Communist government struggled against this "worship-America thought" (Hinton, p22) and in the early 1990's officials commented on *chu guo ri* – "fever to go abroad" (Zweig, p85). Several Chinese scholars have earned great prestige in U.S. universities and current students seek to follow that path. The large numbers themselves have made the trip to America even easier Chinese students are now welcomed into ethnic communities that ease the transition and pull even more students across the Pacific.

The flow of Asian student immigration has brought prestige to American science and has provided American industry with a steady stream of qualified workers. Student migration has also coincided with the rise of modern economies in Japan, Korea, and Taiwan and is playing a part in the development of China and India. A historical pattern has emerged among Asian countries where an initially heavy flow of student immigrants has subsided over time as the Asian countries have become more technologically developed and more socially liberal. Although it has not occurred through direct channels, competition with the United States for these students and professionals has encouraged increasingly westernized societies in China and Taiwan.

The Asian student immigration of the past four decades has had enormous benefits in many different aspects. For America, these have appeared as scientific and industrial achievements. For the Asian-American minority, their professional character has earned them a "model minority" status. In Asia, the economic and political development of Korea and Taiwan paints a bright future for China and India. The rise of Asia as a whole may even provide some hope for African countries such as Kenya, Ghana, or Nigeria, which are currently undergoing similar student immigration patterns, albeit on a much smaller scale (INS, 2002). The U.S. government has long been friendly towards student immigration, and the Asian student immigrant experience provides a wealth of evidence in favor of continuing those policies.

## Sources

- Caltech Career Development Center. "Annual Report 2002." Caltech. Pasadena: 2002.
- Foner, Nancy. From Ellis Island to JFK. Yale University Press. New Haven: 2000.
- Immigration and Naturalization Service. "2001 Statistical Yearbook of the Immigration and Naturalization Service." Washington, DC: 2002.
- Immigration and Naturalization Service. "The Triennial Comprehensive Report on Immigration." Washington, DC: 2000
- Hinton, William. "Hundred Day War:" The Cultural Revolution at Tsinghua University." New York: 1972.
- Institute for International Education. "Open Doors 2002." <http://opendoors.iienetwork.org> . 2002.
- Liao, Karen. "Contextualizing the Taiwanese American Experience." <http://www.taiwaneseamericanhistory.com/> 2000.
- The Nobel Foundation. "Nobel e-Museum." <http://www.nobel.se/index.html> . 2003.
- National Center for Education Statistics. "Digest of Education Statistics, 2001." Table 214: <http://nces.ed.gov/pubs2002/digest2001/tables/dt214.asp> . 2001.
- National Tsing Hua University. "About NTHU." <http://www.nthu.edu.tw/index-e/intro/intro.htm> . 2003.
- Portes, Alejandro and Rumbaut, Ruben G. "Legacies: The Story of the Immigrant Second Generation." University of California Press. Los Angeles: 2001.
- Szelenyi, Katalin. "Explaining the Migration and Settlement of Foreign Graduate Students: Global Integration Theory and the Theory of Cumulative Causation." Working Paper: 2003.
- Tichenor, Daniel. "Dividing Lines." Princeton University Press. Princeton: 2002.
- Tsinghua University. "History of Tsinghua University." <http://www.tsinghua.edu.cn/eng/about/history.htm> . 2003
- Selected Interviews with Tsinghua Alumni (who prefer to remain anonymous).