

Running Head: Back-and-Forth Perspective “Back-and-Forth” as a Viable Alternative to the Brain Drain Perspective, with Chinese Examples

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The “ brain drain ” controversy has polarized the self interests of countries that *send* students abroad against the best interests of countries *receiving* those students into a win/lose competition with the students themselves as the prize. This false dichotomy ignores the long term importance of regional interests and the role of international students as links between countries throughout the region in favor of short term national expediency. For some countries the possibility of a delayed return may be a viable and more accurate alternative to “ brain drain ” for understanding the potential of international educational exchange (Pedersen, 1992).

The “ brain drain ” concept encourages wrong thinking. (1) It does not distinguish between delayed return and permanent non-return in compiling data. (2) It *overemphasizes* the migration of students from sending countries and *underemphasizes* the migration of ideas from receiving countries. (3) It is pejorative in assuming that non-return or delayed return is an intentional exploitation by more industrialized countries. (4) It exploits the sensational slogan aspects of student migration. (5) It creates barriers to the international exchange of students. (6) It assumes a zero sum win/lose competitive relationship between sending and receiving countries.

As we become more aware of regional identity and multilateral dependencies we should move away from the divisive arguments about “ brain drain ” and identify alternative models that allow the sending and receiving countries as well as the students themselves to benefit. There is a third alternative to either returning home or staying abroad. That third alternative is the “back-and-forth” model, where the graduate has the freedom and opportunity to travel back and forth between the home country and the host country as a visible link between the two countries and professional communities. In this way both the sending and the receiving countries benefit from the student as a conduit of professional communication to their mutual advantage. There is data suggesting that many of the students whose delayed return after graduation has been of concern to sending countries, would be willing to return home if they were sure that they would have the freedom and opportunity to go back and forth between the home country and their professional communities abroad.

What is the role of Chinese students studying abroad ?

Since the earliest Chinese students began studying in the U.S. authors have debated the problems of Chinese society absorbing the skills and ideas of returned students from the U.S. The issue is even more urgent today. In 1994-95 there were 39,403 students from the PRC studying in the U.S., which is a 11.2% decrease from the previous year (Zikopolous, 1995). In 1990 there were between 32,000 and 45,000 Chinese students studying in the U.S. Even at the height of Sino-Soviet relations, as a point of comparison, there were never more than about 500 Chinese students studying in the Soviet Union at any one time. The influence of Chinese students into the U.S. reflects a serious commitment to a Western style of education more than ever before, which has become apparent when those students return home.

Between 1978 and 1988 approximately 12,500 students with J-1 visas and 7,000 students with F-1 visas returned to the People's Republic of China (Orleans, 1988, p.13). Until recently there was no "brain drain" problem in China and the student graduates would almost all return to China. Since the incident at Tienamen Square however, there has been a great deal more concern. Tienamen politicized international scientific and educational exchanges and coincided with social and ideological changes to polarize Western and non-Western perspectives in China. Chinese students in the U.S. have been granted special privileges to delay their return, in part at least out of sympathy for their welfare in the current crisis. Prior to the student demonstrations in the winter of 1986-87, virtually all the officially sponsored students and scholars returned to China after completing their studies. Now many Chinese students studying in the U.S. seem to be taking a "wait and see" attitude and are tending to delay their return to China (Zweig & Chanqqi, 1995).

The threat of a brain drain is particularly feared in the area of science and technology. Li Xing (1991) suggests that students in scientific fields have delayed their return because of (1) a lack of trust in Chinese leadership by students abroad (2) a lack of advanced professional opportunities in modern China and (3) the increased popularity of a more self-centered and independent perspective among young people in China. Given the delayed return of students abroad universities in China are less likely to risk sending junior faculty abroad —especially if these faculty were supporters of the Democracy Movement.

Those students who have already returned to China have been mostly "visiting scholars" who completed their studies in relatively short stays abroad. Few of the privately or self-financed students have come back and recently even government sponsored students working toward graduate degrees abroad have been requesting an extension of their stay abroad (Pedersen, et. al., 1991). There is a need for trained scientists and engineers, especially in many less prominent institutions, but foreign-trained scholars might not find these attractive. Although there is concern about the delayed return of Chinese students abroad the situation for China is far from desperate.

What is being done to encourage return?

As a result of the delayed return of students studying abroad, China has tended to encourage study abroad only in applied fields, decreased undergraduate or masters level quotas and increased the number of older students studying for the doctorate. China is encouraging students to return from abroad by setting up post-doctorate research stations across the country and a National Service Center to assist the returned student. There is also a tendency to send students

to Europe, New Zealand, Australia or Japan rather than the United States, presumably out of fear that students sent to the U.S. will be less likely to return home after completing their studies.

It is important to understand the role of Overseas Chinese students from the China viewpoint. Western thinking and theories of development present a threat to traditional Chinese society. Western aid-giving countries have tended to assume that genuine modernization will ultimately mean China's becoming "more like us," but that may not be true. Modernization will result in changes favorable to foreign-trained intellectuals now waiting to return from abroad but advocates of the old ways will lose power. China is going through a fundamental and irreversible transformation in its attitude toward knowledge and its use which will favor Westernized intellectuals. Many of these Western trained intellectuals will eventually return from abroad because of loyalties to China, disillusionment with the U.S. or out of attraction to professional opportunities. When they do return they will be better prepared to contribute because of their delayed return, at least from a Westernized perspective.

To understand the role of the Overseas Chinese students and scholars it is important to consider educational reforms now being encouraged for domestic university education in China. It does seem that the PRC government's original conservative policy will be relaxed, even though the implementation of the new policy may be more liberal in some places than others. There is an attempt to change the university system in China to be more in line with a market economy, and capitalist-style market reforms. The new educational policy aims at training more students in economic-based subjects and instituting a U.S. style "pay-to-study" system at the university level. More private universities, more foreign investment in educational institutions, and more independence by universities are expected to result from this new policy to establish "an education market" in the PRC.

The development of rural enterprises and joint-venture firms has led to a shortage of qualified experts. Xinhua China News Agency claimed China has only 1,075 universities and 2.05 million students which would be less than 1 percent of China's 1.1 billion population. The new reforms seek to develop key universities to "world class" status by the end of this century. Teachers are to be treated as scholars and are being promised equitable pay. The PRC government is also trying a variety of other methods to increase the likelihood of students returning home after study abroad.

First, the responsibility for selecting students to go abroad has been shifted to individual work units, requiring signed contracts between the individual and the unit assigning responsibilities and sometimes requiring a guarantor.

Second, graduates from Chinese universities are routinely required to work for two years before going abroad for an advanced degree.

Third, there is a concerted effort to improve the living and working conditions for all intellectuals.

Fourth, there is a tendency to prefer advanced students and scholars rather than undergraduates as candidates for study abroad, except in language study and specialized areas.

Paul Ong and his colleagues (1991) point out that everybody potentially benefits from the migration of highly skilled and talented graduates. The effective transfer of technology requires an exchange of ideas and people. If graduates who remain abroad create a loss of manpower for sending countries the graduates who return home create a transfer of technology problem through the transfer of ideas from the country where they studied. Whether the Overseas Chinese students go home or stay abroad they offer the opportunity to link both sending and receiving countries in fundamental ways. Since the mid-sixties the migration of talent has been much more fluid and two-directional with migrants going back and forth. Whether the graduates stay abroad, return home or delay their return home need not diminish their contributions at home and/or abroad.

What do students need to return ?

There is much concern in the PRC for the younger graduate students now completing their studies abroad, many of whom are not married or attached to a work unit. There is an expectation that these students will continue to delay their return to China for an extended period of time. An increase in "business fever" among Chinese youth seeking the "good life" of professional and personal affluence has increasingly become a factor in the decision about whether to return or not.

1. Government employees with a college or university education now earn only about 83 percent the life income of their peers with a junior middle school or lower level of education. The graduates want an equitable salary.
2. Some young instructors at Beijing University do not have an apartment of their own even after ten years of marriage because of the severe housing shortage. The graduates want assistance in finding adequate living arrangements.
3. There is little opportunity for young professional academics to be promoted, prompting them to look for opportunities abroad. The graduates want an opportunity to develop and progress professionally.
4. Many research institutes and universities are over-staffed so that even graduates with Ph.D. and Masters degrees find it hard to get a job in their field. The graduates want to delay their return until an appropriate position is available.
5. Research institutes in the natural sciences have been unable to update their equipment in recent years because of diminished funding. The graduates want access to modern equipment.

Not all returned graduates would be welcome. There is a concern in the PRC that monetary gain rather than ideology has become the motivating force among students abroad who would be willing to sacrifice national interests for their own individual interests. There is a further concern that liberalized attitudes are conducive to increased professional opportunities but that these attitudes have also led to unrealistic expectations by Chinese students abroad.

If appropriate changes were made the students would be more likely to return home. These changes would include : (1) respecting knowledge and increasing the status of educated professionals, (2) providing funds to research institutes, universities and institutes, and (3) removing obstacles to promotion for returned graduates. Until these incentives are clearly in place Chinese students abroad are likely to continue to delay their return. The PRC needs to create a favorable climate to attract and retain student graduates from abroad.

Are Taiwan ROC students abroad like PRC students?

In an National Science Foundation grant (INT 8822205) studying the reentry adjustment of Chinese students from the Republic of China Pedersen et. al. (1991) discovered several patterns that might apply to Chinese students from the PRC as well.

Students were more likely to return if : (1) they were not in technical and hard science fields, (2) they were funded by the government rather than private sources and (3) they were older, married and/or had jobs waiting for them back home.

Psychological factors favoring return home included : (1) a sense of belonging in Taiwan, (2) a low level of expressed "well being" in the U.S., (3) a high level of loyalty to their family in Taiwan and (4) a "sense of responsibility" for Taiwan.

Professional incentives favoring reentry included : (1) having a job waiting back home, (2) perceived " career possibilities " in Taiwan exceeding possibilities in the U.S. and (3) the availability of an infrastructure in Taiwan to enhance personal growth.

Nonspecific factors favoring reentry included : (1) the importance of family loyalty, (2) a positive assessment of the environment and degree of pollution in Taiwan (3) a favorable perception of the political environment in Taiwan and (4) the opportunity to make a meaningful contribution in Taiwan.

The reentry decision changed over time based on : (1) the changing strength of personal and professional support, (2) changes in philosophical and ideological orientation and (3) changes in advice from the family in Taiwan. These data provide insight into the decision making process of whether or not to return that perhaps applies to students from Taiwan and students from the PRC as well.

First, satisfaction with the living and working environment is an important factor in promoting a successful reentry for some students but not for others. It seems that personal and professional attraction by itself is not a good predictor of successful reentry for Chinese students. This would contradict the stereotyped presumption that students would remain abroad to protect their private self interests.

Second, returnees expect some extrinsic rewards beyond knowledge alone when they go abroad to study. Some of these rewards include enhanced worth of the degree, a good career, practical experience in a specialized field, prestige of study abroad and respect from society.

Third, ideological reasons are extremely important in determining successful reentry. Most returnees say they returned because of patriotism, obligations to family, feelings of strangeness or discrimination abroad, potential contributions to their profession or family influence. Fears that the new liberalism in the PRC will erode the student's loyalty do not seem justified by these data. Loyalty to the family and to China is a profoundly important factor for deciding to return home for ROC students studying abroad.

Fourth, the external influence of family friends and the environment are extremely important. Those returnees who were more internally oriented were more likely to stay home permanently after their original return home than those influenced by " powerful others " or externally oriented. It may be that the very students identified now as " trouble makers " abroad are the ones most highly motivated to return home, given the right opportunity, while the more conformist and compliant students are more likely to remain abroad.

Fifth, other research on reentry relates return rates to economic development back home, employment opportunities, the extent of social support, the source of sponsorship (public or private) and other circumstantial factors. In some specialized areas there may not be opportunities for graduates to return home.

They may better serve China by remaining abroad and enhancing their expertise for return at some future time when the opportunity arises. Chinese students abroad are like a bank account of talent for China, which accumulates interest in the form of increased expertise and from which the PRC and ROC can make withdrawals at some future time as appropriate.

What are the misattributions about reentry ?

Several examples of misattribution seem evident from the data available.

First misattribution : "Students from abroad are motivated to remain in the U.S. after graduation primarily for financial reasons." While foreign students in science and engineering want and expect a minimum level of security and well being back home, ideological, belief-based and family loyalty factors were much more influential than financial factors in the decision..

Second misattribution : "It is clearly in the best interests of the U.S. that the best and brightest foreign student graduates in science and engineering should remain permanently in the U.S. after graduation." Graduates who return home intend to contribute to their professional and regional best interests by maintaining a network of scientists and engineers from the U.S. in ways that are important and perhaps essential to science and technology in the U.S.

Third misattribution : "Returned graduates in science and engineering will be a destabilizing factor back home because of their foreign attitudes and opinions." Students have no doubt been changed by their stay in the U.S. but their consistent attitudes are to make a contribution to progress and national development back home and there is a consistent emphasis on cultural and national loyalty to the back home country in the data available.

Fourth misattribution : "Whatever is to the advantage of the sending country is almost certainly not in the best interests of the receiving country." This zero-sum assumption places the student in an impossible position of having to choose between the home and host country rather than work toward a win-win outcome which would be in the best interest of both countries.

Fifth misattribution : "Foreign student graduates would prefer to stay in the U.S. if they were given the opportunity." Even those foreign student graduates who end up staying in the U.S. often do so reluctantly and expect ultimately to return home after some delay when the conditions favor their return home.

Sixth misattribution : "There is nothing that the home country can do that will influence foreign student graduates to return home after study abroad." Countries that actively seek and maintain contact with their students during the period of study and who seek to create favorable conditions for the return of individual students have a relatively high return rate over time.

Seventh misattribution : "Most students who decide to remain in the U.S. after graduation are from less industrialized countries while students from more industrialized countries are more likely to return home." While the students are more likely to return home if there are opportunities available for them there, there is no clear evidence that links levels of industrialization with return rates.

Eighth misattribution : "If the student graduates do not return home immediately they should be counted statistically as contributing to the brain drain and will probably never return home later." The brain drain construct presumes the permanent and one-directional loss of talent from sending countries to receiving countries.

Ninth misattribution : "Brain drain is the deliberate exploitation of less industrialized home countries by the more industrialized host countries." When the student decides to stay, the sending country may be "drained" of that student's potential contribution but every student who decides to return home brings what they learned with them and thereby "drains" some of the technology of the receiving country in a reciprocal exchange.

Tenth misattribution : "Graduates who return home will be given the opportunity to make a contribution from their learning." Graduates who have returned, report that they are often hampered in making a contribution by jealous colleagues, political suspicion, administrative rigidity or other institutional barriers that sabotage the graduate's ability to contribute in meaningful ways from what they have learned abroad.

Conclusion

Countries with higher rates of delayed return have frequently experienced rapid development while countries with a lower rate of return have developed more slowly. Other literature points out positive benefits of talent migration (Glaser, 1978). Migration channels excess manpower to countries where it can be utilized, facilitates the transfer of technology, enhances the production of educational knowledge, strengthens ties between countries, provides income remittances to home countries and benefits to the individual migrants (Buck, 1980).

This chapter has explored patterns of data about reentry that suggest both the alternatives of returning back home permanently or staying in the host country permanently are problematic for the sending country, the receiving country and the individual student. The implications of these data are that a third alternative exists providing the graduate with the freedom and opportunity to go "back-and-forth" between their home country and their professional community of colleagues abroad. Instead of competing for the student graduates in a zero-sum tug of war between sending and receiving countries, the back-and-forth alternative would allow everyone to benefit from the graduate as a fluid resource linking professional communities in both the sending and receiving countries.

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