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Brain Drain or Gain: Migration of Knowledge Workers From India to the United States

Anjali Sahay
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BRAIN DRAIN OR GAIN: MIGRATION OF KNOWLEDGE WORKERS FROM
INDIA TO THE UNITED STATES

by

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A Dissertation Submitted to the Faculty of Old Dominion University
in Partial Fulfillment of the Requirement for the Degree of

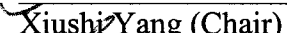
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ABSTRACT

BRAIN DRAIN OR GAIN: MIGRATION OF KNOWLEDGE WORKERS FROM INDIA TO THE UNITED STATES

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Old Dominion University, 2006
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This dissertation looks at the topic of brain drain from a new lens. It departs from the traditional literature to include discussion on brain gain and brain circulation using Indian migration to the United States as case study. While it cannot be denied that host countries have policies that encourage or provide the necessary conditions for brain drain to take place, it must be taken into account that many source countries now benefit from out-migration of their workers and students. These are usually measured as remittances, investments and savings associated with return, and network approaches that, with a connectionist approach, link expatriates with their country of origin. In addition, Diaspora members, through successes and visibility in host societies, further influence economic and political benefits for their home countries. This type of brain gain can be considered as element of soft power for the source country in the long term. Three hypotheses are tested in this dissertation to argue the points above. Using India as source country, the first hypothesis positively tested that benefits outweigh the cost of out-migration, with India as the highest remittance receiving country in the world with multifaceted connections in the Silicon Valley. The second hypothesis accessed the leverage of the Indo-American community as strong in terms of wealth and education. However, the possibility of this changing the asymmetrical interdependent relationship between India and the U.S. in favor of India remains at best a possibility in the long term.

The third hypothesis also positively tested that a more active role played by the state in the sending country determines the level of return and non-return benefits. The dissertation also notes that while these hypotheses may be true for a country like India, where many other factors play a role, it may not necessarily affect other less developing countries in a similar vein. Additionally, third generation Indo-Americans may not necessarily retain the same ties as were seen by the first and second generations. Thus direct benefits in the long term may differ in result.

To my parents, Rekha Sahay and Late Janardan Sahay.

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TABLE OF CONTENTS

Chapter	Page
I.	INTRODUCTION1
	RESEARCH QUESTIONS AND HYPOTHESES12
	COMMON ASSUMPTIONS WITH BRAIN DRAIN.....16
	OVERVIEW OF THE DISSERTATION.....20
II.	ALTERNATE THEORETICAL APPROACHES TO BRAIN DRAIN ...23
	INTRODUCTION23
	BRAIN DRAIN: CONCEPTS AND LITERATURE REVIEW ...25
	BRAIN GAIN: REMITTANCES, RETURN, AND DIASPORA NETWORKS36
	BRAIN DRAIN AND BRAIN GAIN: ROLE OF THE STATE ..54
	BRAIN DRAIN AND (UNDER) DEVELOPMENT.....60
	BRAIN GAIN AND SOFT POWER: SOME GAPS IN THE LITERATURE.....69
	CONCLUSION.....76
III.	INDO-US RELATIONS: POLITICAL, ECONOMIC AND MIGRATION LINKAGES.....78
	INTRODUCTION78
	COLD WAR CALCULATION: POLITICAL & ECONOMIC...80
	POST COLD WAR AND CHANGING RELATIONS89
	MIGRATION FLOWS: INDIA AND THE UNITED STATES...99
	INDIA AS THE SENDING COUNTRY100
	UNITED STATES AS RECEIVING COUNTRY111
	CONCLUSION.....118
IV.	UNITED STATES: IMMIGRATION LAWS AND FUTURE OF BRAIN DRAIN121
	INTRODUCTION121
	THE IMMIGRATION DEBATE123
	HISTORY OF IMMIGRATION IN THE UNITED STATES....129
	SELECTIVE RECRUITMENT: SKILLED WORKERS AND STUDENTS137
	TEMPORARY ADMISSIONS (H1 – B) CATEGORY143
	TEMPORARY ADMISSIONS (F1) STUDENT CATEGORY .152
	THE FUTURE OF IMMIGRATION LAWS AND BRAIN DRAIN.....158
	CONCLUSION.....159

Chapter	Page
V.	INDIAN DIASPORA AND BRAIN GAIN: REMITTANCES, RETURN AND NETWORK APPROACHES162
	INTRODUCTION162
	BRAIN DRAIN AND COST.....164
	REMITTANCES.....170
	INVESTMENTS AND BANK DEPOSITS177
	RETURN MIGRATION.....186
	DIASPORA NETWORKS AND BRAIN CIRCULATION190
	CONCLUSION.....203
VI.	INDIAN DIASPORA IN THE UNITED STATES: SOFT POWER AND BRAIN GAIN204
	INTRODUCTION204
	STATISTICAL PROFILE OF ASIAN INDIANS IN THE UNITED STATES206
	INFORMATION TECHNOLOGY (IT) AND OTHER INDUSTRIES216
	POLITICAL CONNECTIONS THROUGH CAUCUS AND LOBBYING.....231
	SOFT POWER, MIGRATION, AND BRAIN GAIN.....245
	CONCLUSION.....256
VII.	CULTIVATION OF THE INDIAN DIASPORA: FROM STATISTICAL ANALYSIS TO POLICY FORMULATION.....257
	INTRODUCTION257
	LABOR EXPORT AND OTHER STRATEGIES IN SENDING COUNTRIES.....259
	ROLE OF THE INDIAN STATE: INITIATIVES AND RESPONSE.....265
	INDIAN IT INDUSTRY: GOVERNMENT POLICY INITIATIVES IN THE 1990S.....272
	PRAVASI BHARTIYA DIVAS (NRI DAY) INITIATIVE278
	ECONOMIC AND POLITICAL BOTTLENECKS281
	CONCLUSION.....284
VIII.	GENERATIONAL EFFECTS OF INDIA'S BRAIN DRAIN AND GAIN: A CONCLUSION.....286
	HOPE AND DESPAIR.....286
	LINKING THEORY AND EVIDENCE: MAIN FINDINGS....289
	AVENUES FOR FUTURE RESEARCH.....298
	BIBLIOGRAPHY.....301
	WORKS CONSULTED318

APPENDIX.....	322
VITA.....	323

LIST OF TABLES

Table	Page
1. Types of Return Migration	46
2. Relationship with India During Cold War: US, USSR, and China	84
3. Share of US FDI in Total – Actual Inflow to India	93
4. India: Cumulative FDI.....	94
5. Year-Wise Foreign Institutional Investments.....	94
6. Country Wise Approved Indian Direct Investments	96
7. Estimated Size of Overseas Indian Community: Country -Wise as of 2004...104	
8. Trends in Immigration from India to Selected Industrialized Countries:.....105	
9. India’s Share in Total Immigration to the US: 1951-1996.....106	
10. Indian Immigration to the United States 1991 – 2004.....108	
11. Indian Immigration to Canada 1991 – 2004.....109	
12. Indian Immigration to the United Kingdom 1991 – 2001	110
13. Milestones in the History of Asian Indians in North America	112
14. Immigration into the U.S. from China, India, and Mexico: A Comparison....114	
15. Major U.S. Legislation on Immigration	131
16. Legal Progress Toward Opening of the US Borders to Knowledge Workers in 1965	135
17. Immigration and Nationality Act Amendments of October 3, 1965 (79 statutes-at-large 911)	136
18. Immigrants Admitted in the US by Type and Selected Class of Admission: Fiscal Years 1995 – 2004	139

Table	Page
19. Immigrants Admitted by Region and Country of Last Residence, Fiscal Years 1989 – 2004	140
20. Top 10 Beneficiaries of H1 B for 2002, 2003, and 2004	146
21. Profile of H1 B Beneficiaries by Top Ten Countries of Birth: 2002.....	147
22. Profile of H1 B Beneficiaries By Top 10 Occupations: 2002	148
23. Profile of H1-B Beneficiaries by Top 10 Industries, Fiscal-Year 2002	149
24. Remittances to India by Regions of Origin, 1971-1996.....	173
25. Remittances by Country: 2003	173
26. Regulations Governing NRI Deposits	179
27. NRI Investments (Both Technical and Financial)	182
28. Inflows (+) / Outflows (-) under Various NRI Deposit Schemes.....	183
29. United States Fortune-500 Investors In India.....	194
30. Indian American population by State of Residence	209
31. The Techie Tide – Vaulting the Corporate Ladders	222
32. Indian Diaspora Achievements in Popular Media and Movies	229
33. South Asian Candidates in 2004.....	230
34. Top Six Fundraisers for Bush: Election Campaign 2004	237
35. Elements of Human Capital.....	250
36. Main types of policies relating to labor emigration in Asian countries.....	260

LIST OF FIGURES

Figure	Page
1. South to North Migration Flows: 1960- 65.....	28
2. South to North Migration Flows: 1980- 85.....	29
3. Brain Gain: Remittances, Return, and Diaspora Network.....	37
4. Workers' Remittances and Other Inflows for Developing Countries.....	37
5. Top Twenty Countries as Sources of Remittances	42
6. Top Twenty Countries as Recipient of Remittances.....	42
7. Total Number of Naturalizations of Selected Countries and India's Position in 1991	115
8. Total Number of Naturalizations of Selected Countries and India's Position in 2004	115
9. Comparison of Asian Immigrants from 1990 to 2004.....	116
10. Demand for Skilled Labor	125
11. Immigrants Admitted by Region and Country of Last Residence In Percentage in 2004.....	140
12. Employment Based Preference per Region for 2004.....	141
13. Remittances to Selected Countries	174
14. Different components of the Remittances Data in the RBI and IMF	175
15. NRI Deposits.....	180
16. Share of Foreign Currency and Repatriable Deposits in Total Deposits.....	180
17. Educational Attainment for Different Asian Groups: 2000.....	214
18. Occupation for Different Asian Groups: 2000	214

Figure	Page
19. Median Family Income for Different Asian Groups: 1999	215
20. Indian Diaspora and Political and Economic Gain	235
21. Actual Inflow Of Foreign Direct Investment Including NRI Investment: 1991 – 2002.....	271

CHAPTER I

INTRODUCTION

“Today, as never before, there is a common market for brainpower which transcends national boundaries. And with improved transportation and communication, market information has been readily available, immobility reduced, professional training standardized, and the allocation mechanism for talent rationalized.”
Walter Adams (1968)

As early as 1968 Walter Adams had rationalized the movement of skilled labor or human capital as one that would be determined not by countries and immigration policies but dictated by open, global markets. With the advent of the new millennium, an increasing role for the migration of people has taken on new proportions in the context of economic globalization. Migration, as a discipline has been intellectually welcomed for many years and a number of subfields have been developing within the field including: migrations associated with the activities of multinational companies; migration of students and researchers; brain drain and return; the emergence of an international skills market; illegal immigration and many more.

Within the field of migration, the movement of the ‘highly skilled’ has received increased attention besides that of refugees and political asylum seekers. Like trade and capital, international labor flows dominate many academic discussions as such flows offer great potential benefit for both the sending and the receiving countries. Migrants have often been viewed as more productive than other workers since they reduce labor costs in the host countries and also send remittances to their home countries.

This dissertation follows the format requirements of *A Manual for Writers of Term Papers, Theses and Dissertations* 6th edition by Kate L. Turabian.

The developed countries¹, however, are made the subject of a whole series of complaints where they have been accused of draining the less developed countries (LDCs)² of their professionals, and thus, holding back their development. Popularly termed as ‘brain drain’, policymakers, particularly those in the United States have been targeted for importing brain gain from source countries and accumulating human capital.

Brain drain with its pejorative ring, captured the attention of policy-makers worldwide beginning in the decade of the 1960’s. The conventional view of the ‘talented’ international migrant, a young man of modest backgrounds crossing the high seas began to take definite shape and form with increased migration streams entering traditional receiving countries such as the United States, Canada, and Australia.³ The United States remained dominant in the field of immigration statistics since Americans did most of the early analysis on migration. Concerns about brain drain were heightened when the United States abandoned the national quotas enacted in the 1920’s and changed its immigration laws in 1965 from one of discrimination, based mainly on *national origins*, to one of discrimination based on *skill*. As a result, brain-drain statistics almost

¹ Developed nations are countries that have achieved (currently or historically) a high degree of industrialization, and which enjoy the higher standards of living which wealth and technology make possible. In most cases, countries with high per capita GDP are “developed countries”; sometimes a high GDP can be achieved (usually temporarily) through natural resource exploitation (e.g. Saudi Arabia, oil; and Nauru, phosphate) without the country becoming developed.

² Countries in the process of change directed toward economic growth, that is, an increase in production, per capita consumption, and income. The process of economic growth involves better utilization of natural and human resources, which results in a change in the social, political, and economic structures.

³ For many decades the United States was the main receiving country, with Canada and Australia a close second. Whereas migration studies in the United States have concentrated on the impact of immigration on the nation’s demographic situation, in Canada, the discussion of immigration has broadly concentrated on policy and its justification. In Australia, the so-called Borrie Report has analyzed the growth of population from both natural increase as well as from immigration. This however, does not mean that no one went to other British dominions and various parts of Latin America and Asia.

immediately reflected an increased number of ‘talented persons’ entering the country – *migration of the educated and migration for education*.⁴

Consequently, policy-makers throughout the world asked for several recommendations for moderating the immigration of talent to the United States.⁵ However, more pressing international problems in the 1970s such as the international oil crisis of 1973 (and international debt) pushed brain drain issues into the background allowing it to continue into the decade. Writings by theorists and scholars subsequently concentrated on the literature associated with counter-measures to ‘brain drain’ i.e. various policy options that might compensate this loss. Three such policy options, namely, *taxation* (compensatory financial measures), *regulation* (financial flows through international norms), and *conservation* (control of emigration) were explored. These policy choices could not have much of an impact on the movement of professionals since this migration of the ‘highly skilled’ reflects the operation of an international market for specialized human capital. Furthermore most countries follow a laissez-faire policy, i.e. non-interference with migration⁶ in tandem with the ‘*internationalist model*’ that holds the perspective that human skills should be put where they can be best utilized.⁷

Sending countries, on their part, also began recognizing the global benefits of the mobility of their skilled labor. In the first place, emigration of talent provides a positive

⁴ See Robert G. Myers, *Education and Emigration: Study Abroad and the Migration of Human Resources* (New York: David McKay Company, Inc, 1972).

⁵ For a detailed discussion of the subject see Barry R. Chiswick, *The Gateway: U.S. Immigration Issues and Policies* (Washington D.C.: American Enterprise, 1982); Jagdish Bhagwati, *The Brain Drain and Taxation II: Theory and Empirical Analysis* (New York: American Elsevier, 1976); and T. K. Oommen, “India: Brain Drain or the Migration of Talent?” *International Migration* 27 number 3 (September 1989): 411-425.

⁶ For a better analysis see Barry R. Chiswick; and Sharon S. Russell, “Remittances from International Migration: A Review in Perspective”, *World Development* 41 number 6 (1986): 677-696.

⁷ Much of the knowledge-based developments in the world have been the contributions by the immigrants’ through Research and Development (R&D) carried out in the developed countries of the West.

signal that motivates others in the sending country to acquire more education, thereby raising “human capital” and possibly promoting growth. Second, emigrants could, in due course, return⁸, form knowledge networks, or resource repatriation (such as remittances), and provide essential inputs to new businesses and activities in the sending country.⁹ Third, emigration could actively promote a more effective flow of knowledge and information. And last, the rapid development in information technology (IT) and communications limits the extent to which skills may actually be lost.¹⁰

Consequently, sending countries formulate policies for maintaining productive bilateral relations between their diaspora communities and the country of origin. As a result, two policy choices have been explored to derive maximum benefits from this lost human capital. These include both the return and diaspora options where the former aims at the return of human capital and the latter at their potential contribution through remittances, financial know-how, and technology flows without altering their physical location. These ‘options’, often termed as ‘carriers of gains of migration’ have been categorized by some scholars as: (a) money: remittances, financial investments; (b) machines: direct foreign investment in high-tech equipment, know-how; and (c) labor: skill transfer through return migration. For simplification, this dissertation will look at

⁸ Return refers broadly to the act of going back from a country of presence (either transit or destination) to the country of previous transit, or origin. There are numerous sub-categories of return which can describe the way it takes place, e.g. voluntary, forced, assisted or spontaneous return; as well as subcategories which can describe who is participating in the return, e.g. repatriation (for refugees). Voluntary return is based on an informed decision freely taken by the individual; assisted voluntary return includes organizational and financial assistance for the return and where possible, reintegration measures offered to the individual. Involuntary, or non-voluntary, or forced return: return that is not undertaken by the individual voluntarily.

⁹ These contributions have been mainly financial resource flows in the form of monetary remittances, portfolio investment and technological know-how through direct foreign investment.

¹⁰ The network industry in ‘software’, being a case in point

these options as either return (labor) or diaspora options (money and machines). Network approaches will also be explored.

Return and Diaspora Options as Brain-Gain Strategies

In much of the migration literature, return has been associated with gain for the sending country and non-return with a loss (economic) as emigration has traditionally been seen as a cost that poor countries incur when they lose some of their most valuable people.¹¹ The thousands of dollars spent on educating a doctor or an engineer disappears when they take their skills abroad. With return, it is assumed that the students, professionals, and scientists who have migrated to the advanced developed countries would not only acquire superior training but also convert it into better jobs at home when they return, or in the case of medical doctors, invest in more lucrative private practices in their home country. Gain is therefore associated with return with the hope that through studying and working with outstanding scientists and research teams in prestigious institutions abroad, migrants would be able to bring back the skills and knowledge acquired and apply them in the home country.

Taiwan serves as a good example to enumerate the point above. Once considered as a classic case of 'brain drain' during the 1970s and 1980s, Taiwan has a return rate of only twenty percent for its college graduates who had gone abroad for higher studies. At the peak of the brain drain in 1979, only eight percent of students who went abroad

¹¹ Valuable here is accounted for people who went to the best schools and colleges and who were in the primary working years.

returned upon completing their studies.¹² In spite of the political anxiety created by the exodus of its scholars, the Taiwanese economy was not much affected by this and the economy grew at a remarkable rate. Furthermore, the brain drain slowed and partially reversed in the 1980s and 1990s with the return rate for students climbing up to thirty-three percent between 1985 and 1990. Today, these migrants come home with high levels of education, partially subsidized by foreign governments and universities, and significant business experience. The expertise they bring has helped to fuel a boom in the domestic high-tech sector. Although Taiwan remains a country of net emigration today, the brain drain is looking more like a gain with higher rates of return, and brain circulation with knowledge and technology networks.

Notwithstanding these gains, I argue that caution should be exercised with respect to 'return' and 'gain' primarily because of three counterarguments. *First*, return of expatriates adds to the problems of increased population pressure in the home country; *second* return is not always profitable in economic terms (for the individual); and *third*, non-return has also yielded benefits (the Diaspora option explained in the next section). In the first counter-example there is an underlying assumption that several of the largest LDCs will be able to provide jobs for their rising generations and join the ranks of the 'Newly Industrializing Countries' (NICs). In the second there is an assumption that return is always beneficial, however, in most cases there is a definite loss to the individual as there are much higher scales of remuneration for them in the host country as

¹² In the case of Taiwan some scholars have argued that since ample employment opportunities had existed at real wages comparable to the United States, it has been relatively difficult to explain why students might have preferred to live abroad. Thus theoretically speaking, even if there are returns, brain drain would continue to exist. See V. Kwok and J. Lenald, "An Economic Model of the Brain Drain", *American Economic Review* 72 number 1 (January 1982): 92-100.

compared to their own. Hence non-return has been attributed to the lower levels of income as compared to what they would have earned in the receiving country. Thus 'return' as 'gain' for the country may not convert automatically as 'gain' for the individual. Researchers, such as Khadria¹³ find that in general, there have been very few benefits from migrants residing in the receiving countries and a low number of actual returns to the sending country. And in the third, migrants, by circulating knowledge and skills remotely, also benefit the sending country. Thus gain, may be associated with return but return is not a prerequisite condition. Additionally, such reinvestment by migrants in the sending country has been directed towards projects that have resulted in greater material wealth for investors, but benefit only a small sector of the population.

Although scholars have attempted to look at the types and motives for return migration, most agree that return migration is the most difficult aspect of the migration cycle to quantify. This is primarily because most countries gather information on incoming aliens than on returnees and secondly, the analytical framework in which geographical movements have been viewed so far has focused in one direction alone – rural to urban – or South to North (Figure 1 and Figure 2 in Chapter II). In many other cases, pecuniary (economic) and non-pecuniary (political) reasons have been cited for either return or non-return, making it more difficult to have a general theory for return migration.

The other, known as '*diaspora option*', is the most recent policy that has come under full implementation with regards to migrations of highly qualified human resources. Popularly termed as 'brain circulation', it differs from return in the sense that it

¹³ See Binod Khadria, *The Migration of Knowledge Workers: Second-Generation Effects of India's Brain Drain* (New Delhi: Sage Publications, 2000).

does not aim at the physical repatriation of the nationals living and working abroad. Its purpose has been the remote mobilization of the Diaspora's¹⁴ resources and their association to the country of origin's programs (for example, China, Colombia, India and some African countries).¹⁵ Thus scientists and engineers have extended the benefits of their educational qualifications irrespective of their physical location. Usually done through a formal, institutionally organized network, the "Scientific Diasporas" and "Immigrant Entrepreneur Networks" have helped to capture both benefits and know-how of the emigrants overseas.

The concept of the Diaspora as a 'brain bank' from which knowledge can be borrowed takes on new and promising dimensions with the growth of 'knowledge networks' in the last ten years. Expatriate professionals promoting the exchange of skills and knowledge between their countries of origin and residence have become important channels for knowledge transfers through what the 'International Organization for Migration (IOM)' calls "virtual return migration" as opposed to physical travel. In addition, deregulations of international financial markets coupled with new technologies have made sending money home easier and cheaper than before. Both remittances and foreign direct investment (FDI) initiated and processed through Diaspora communities negate preconceived notions of 'brain drain' and mobility of skilled people in one direction.

Grass roots initiatives in South Africa and some countries in Latin America have been developed to link researchers abroad to networks in their home countries. At the

¹⁴ The term 'Diaspora' refers to the dispersion or spreading of something that was originally localized (as a people or language or culture). Here we are referring to it as people.

¹⁵ Explained in detail in later chapters

beginning of the 1990s, Colombia started to systematically and consistently apply the diaspora option, through the creation of ‘the Colombian Caldas Network of Scientists and Engineers Abroad’. This experience has been studied during the last four years by Franco-Colombian research teams who identify certain indicators and methods that could help develop it elsewhere. The research first contextualizes the Diaspora option and the Colombian experience by putting it in historical perspective along with other policies designed to tackle the issue of professionals’ migration. It then describes what the S&T diaspora is in terms of actors and dynamics.¹⁶

In Singapore, where migration of professionals has been seen as an act of disloyalty to the nation, new studies show how the Diaspora option can be effectively utilized to help the country and convert its brain drain into a gain. One study on emigrants from Singapore draws attention to the fact that brain drain from Singapore is now being seen *not* as an act of disloyalty to the nation but one that has led to the building up of Singaporean overseas business ventures that benefit the home country. This has been supported by the fact that Singapore has shifted its economic strategy from a focus on high technology, high value added industries to a program of building an external economy through overseas expansions and the promotion of offshore activities. In this regard the Singaporean government has issued recent statements that increasingly identify the overseas community as a ‘valuable link’ to Singapore and to the world economy. The Singapore example suggests that, in an increasingly borderless world, the relationship between emigration, citizenship and national loyalty requires reconsideration.

¹⁶ See J.B. Meyer, “Network Approach versus Brain Drain: Lessons from the Diaspora,” *International Migration* 39 number 5 (2001): 91-110.

Overseas nationals, in addition to being a brain gain for the receiving countries have often been able to leverage a network in their host country to raise funds, get mentorship, and access distribution channels, all benefiting the country of origin, economically and politically. This has primarily been achieved through *their successes in the countries of residence and promoting the image of their home country to spawn more enterprise*. As an example, a human development report talks about the success of the Indian Diasporas in the Silicon Valley (in the United States) who appear to be influencing how the world views India, by creating a sort of ‘branding’. The new transnational demand for information technology specialists from India has led to a rapid expansion of training at home, increasingly by the private sector. In addition, many Indian-launched firms that have “front offices” in the U.S. have also opened manufacturing plants back home, making increasing investments in hi-tech training for local workers. The 264-page United Nations Development Program (UNDP) study identifies Bangalore¹⁷ as one of a number of world-class technological hubs that have emerged to challenge Silicon Valley and other centers in Europe and Japan.¹⁸

In addition to economic benefits, this power has also been translated into political benefits with large expatriate communities holding key economic and political positions in the host societies. The achievement and status of the Diasporic communities or ‘soft power’ have been crucial for forging closer ties between countries of origin and destination. Thus emphasis on the uses of migration as a policy instrument may be

¹⁷ Out of the 10,000 industries that Bangalore (capital of the state Karnataka in southern India) boasts of, Information Technology industry has made the city the fastest growing one in Asia. Out of an annual average growth rate of 58% in IT, Bangalore alone contributes about 40%. In recent years, Karnataka has emerged as the Computer State, and the centre for high-tech industries, especially in the area of the computer hardware, software, electronics, instrumentation, and telecommunication.

¹⁸ UNDP, *TOKTEN, Brain Drain and Human Development Report*, (2001). Available [Online]: <<http://www.undp.org.lb/tokten/braindrain.html>>[4 October 2005].

extended, to two broader questions. Why do certain kinds of states choose to promote migration? And what can be said of the long-term consequences, for the regimes and persons involved, of using migration as a policy tool?

So far, studies on 'role of the state' have been limited to *immigration policies* of the receiving countries. Largely concerned with the affect of illegal immigration on demographic composition, very few studies have focused on the role played by legal migrants. The role of the state of sending countries in facilitating return has been remarkably understudied as a field. In this dissertation there will be an attempt to focus equally on the role of the state in both the receiving (encouraging and facilitating brain drain, Chapter IV) as well as the sending countries (encouraging return or diaspora options as brain gain strategies, Chapter VII).

Receiving societies, both historically and contemporarily welcome global citizens who contribute most to their economy. For a long time, there has been a general awareness of the various benefits to the U.S. population by capturing the mobile, skilled foreign professionals. The reasoning behind this statement lies in the assumption that individuals increase or at least do not decrease the per capita income of the receiving societies. Empirical evidence proves that immigration, being selective through a set of laws and regulations, prefers legal migrants with a definitive skill set. The absorption of human capital in host societies is thus seen as gain with transfer of knowledge acquiring primary importance. Growth models have also made distinctions between 'skills' and 'knowledge' and how the usage of these terms constitutes completely different meanings. Whereas skills are tied to people and can constitute as a subset of brain drain, knowledge is not tied to the individual, is not firm specific and can be circulated to create spillover

effects for a larger economy. The basic assumption behind this strategy, in line with the 'New Growth Theory' suggests that increasing the level of human capital in a region produces positive externalities that spill over to other sectors and regions of the host economy. Some of the most common reasons for out-migration is the level are the political and bureaucratic hurdles in the home country. In addition, higher salaries, better working conditions, and in some cases even political freedom contribute to the phenomenon.

RESEARCH QUESTIONS AND HYPOTHESES

So far, the essential position developed with respect to brain drain has been badly defined, loosely measured and generally misinterpreted in much of the literature. It has been too simplistic in its approach and finer nuances have not been focused on. In the last couple of decades, the debates and issues associated with brain drain have undergone a transformation with both emigration and immigration being viewed in a more positive light.

Although the drain of the skilled and the educated has accelerated over the last decade, scholars and academicians now focus on the economic benefits of brain drain as a development strategy for the LDCs and provide insights for policy recommendations. In light of this aspect of the brain drain phenomenon, this dissertation looks at the linkages between 'human capital', and 'brain gain' strategies for the sending countries. Touching on core issues such as development, it sheds light on the core-periphery discussions where knowledge, and thus capital, flows to the periphery. In an era of economic globalization, the movement of people (like goods and services) no longer

remains unidirectional. Undoubtedly, the discourse on brain drain needs reconsideration both within the fields of ‘international migrations’ and that of ‘international relations’.

The central research questions explored in this dissertation have been developed to better understand whether the mobility of human capital constitutes a brain gain for the sending country. How can a Diasporic community promote the image of their home country to spawn benefits? To what extent can intellectual Diaspora networks bridge the gap between the developed and developing countries? What has been the ‘role of the state’ in harnessing return of expatriate professionals? And finally, to what extent can ‘human capital’ redefine theories of ‘power’ and ‘development’?

The hypotheses statements proposed in this dissertation are “*directional*”¹⁹ as they mainly make an attempt to guess about the nature of the relationship between concepts such as ‘human capital’ and ‘development’. For a long time the use of soft power or people has been understudied as influencing hard politics and politics of development. With new roles emerging for transnational migrant communities, their role in fostering development needs to be further explored. Brain gain strategies and benefits (either direct or indirect) have been postulated with the help of hypotheses statements below:

- a. *Diasporic communities can become agents of development for their home countries by direct benefits that will outweigh the costs.*
- b. *Skilled migrants with high levels of education and income are more likely to influence (economic and political) investments for their country of origin and can*

¹⁹ Janet Buttloph Johnson and Richard A. Joslyn, *Political Science Research Methods*, 3rd edition (Washington D.C.: Congressional Quarterly Press, 1995), 54-57. There are four different types of hypotheses: (1) null hypothesis states that there is no relationship between two variables; (2) correlative hypothesis states that there is a relationship between two (or among more) concepts; (3) directional hypothesis makes a guess about the nature or direction of the relationship between concepts; and (4) causal hypothesis makes the boldest claim about the relationship between two or more variables, and also the most difficult to confirm.

be utilized as soft power to redefine asymmetrical relationships between country of origin and destination.

- c. *A more positive role played by the state in the sending country determines the level of return and non-return benefits.*

The methodology used in this dissertation will be the use of countries (India and the United States) as case studies and observing migration patterns between them over a defined period of time. Using case studies does not only appear as an ideal methodology when a holistic, in-depth investigation in migration patterns has been needed but also helps to maximize what can be learned in the period of time available for the study. Scholars have identified different types of case studies²⁰. The case studies used for this dissertation would be both intrinsic (when the researcher has an interest in the case) and instrumental (when the case is used to understand more than what is obvious to the observer). Notwithstanding a frequent criticism of case study methodology in its dependence on a single case to generalize conclusions, the study of a single case can be representative of a wider population. As argued by both Mitchell (1983) and Yin (1984), case studies should be evaluated in terms of the adequacy of the theoretical inferences that are generated at the end of a research. The case studies used in this dissertation draws upon both quantitative and qualitative research that has involved collecting data from more than one source. Data on immigration statistics is primarily taken from the United States Census bureau and the Immigration and Naturalization Services. Although labor flows from India have continued unabated for a long time, it has been surprising that there exists no information, let alone a primary source of data, on these migration

²⁰ R. K. Yin, *Applications of Case Study Research* (Newbury Park, CA: Sage Publishing, 1993) identifies some specific types of case studies: exploratory, explanatory, and descriptive; and R. Stake, *The Art of Case Research* (Newbury Park, CA: Sage Publications, 1995) has included three others: intrinsic, instrumental and collective.

flows from India. Whatever analysis has been carried out till date on the composition of these flows is thus based upon immigration statistics of the countries of destination.²¹

Choice of Countries

The choice of India and the United States as case study for the brain drain phenomenon not only seems pertinent but also very important since Indian migration to the United States has been fairly consistent over the decades. After India's independence in 1947, the number of Indian students migrating to the United States increased dramatically bringing in their wake, high levels of academic attainment and valuable scientific and engineering skills. By the early 1970s the small but influential Indian minority were estimated at having the highest per capita income of any ethnic group in the United States. With the end of the Cold War and advent of globalization the migration of Indians increased four-fold with breakthroughs in information technology and other professions.

Visibility of the Indians in the U.S. has been fairly consistent with Indo-Americans growing not only in strength but also in terms of educational and income levels. Close to two million people, this community boasts of various achievements in the host country. Emerging as the single largest as well as the fastest growing component of the legal migrants (after Mexico) also makes them distinct from other communities in the United States. Specifically in the last decade, three critical trends have been witnessed with important implications for the international relations between India and the United States. First is a sharp increase in their numbers. Second the emergence of a

²¹ See Deepak Nayyar, *Globalization and Migration: Retrospect and Prospect* (NOIDA: V.V. Giri National Labor Institute, 1999).

large number of financially powerful and politically well-connected Indian Americans.²²

And third, increase in their activities in the US political arena to promote issues concerning India.

COMMON ASSUMPTIONS WITH BRAIN DRAIN

Economic theory stressing the ambivalence in the field of migration makes common generalizations and assumptions almost impossible to make. The research questions designed in this project have been based on some common assumptions associated with economic theories. In an emerging global world where the immediate future is viewed as the 'age of migration', it is imperative that attempts are made to examine the implications of the contemporary migration flows to evolve a more purposeful migration policy framework.

Assumption # 1) Innovation and inventions have no national boundaries.

With the revolution in information and technology and reduced costs of traveling, a major breakthrough has been achieved in labor mobility, especially in the skilled labor market. Public-private partnerships have started investing in technical universities and communications infrastructure to create cutting-edge technology parks in places like Bangalore, which does not fall in the global north. This not only makes LDCs more competitive and alluring to investors and multinational companies, but also facilitates labor flexibility, free flows of capital, and desperately needed infrastructure improvement. The fact is that emerging countries are churning out more scientists,

²² The Pakistani American community, by contrast, was only about one-tenth the size of the Indian American community

engineers and technology workers to staff their nascent industries, while the numbers of students entering these fields in the United States has remained flat. The United States has also been cutting R&D funding while foreign governments have been creating public-private partnerships to invest in R&D projects and persuade their brightest youth to pursue high-tech careers. And although the United States continues to be a hot destination for brains around the world, the often-repeated question is whether the US policymakers, the media, and the public is underestimating the emerging competitive threat of nations like China and India, countries that increasingly offer skilled, educated, professional knowledge-based workers as lower wages.

Nancy Birdsall, a UNDP adviser has rightly pointed out that, “in a global market, people with the right skills will naturally migrate to the high-tech, high-wage frontier, wherever it is.” Thus brain drain, and its counter-measures, solutions and benefits calls for a major paradigm shift in the discussion put forward so far. Given the globalization of human capital, borders and boundaries need new definitions.

Assumption # 2) Economic globalization and the mobility of capital have made movement of skilled labor multi-directional.

Economic globalization and the mobility of capital have now given corporations the freedom to move businesses and investments from one part of the world to another. In other words, this had ended almost three hundred years of the phenomenon of ‘the tyranny of location’ whereby businesses had no alternative but to locate in certain places drawing in skilled labor, preferably the best and the brightest, to these locations. This trend, more than any other discussed above has brought into question all previous

discussions on brain drain and gain since migration of people has been replaced to some extent by the migration or outsourcing of jobs. There are reasons to believe that the U.S. and the UK private companies, which generate almost all of India's outsourcing business, will locate an increasing share of their operations in India and other developing countries in the coming years. First it is the size of cost savings that off shoring has generated for the companies that have already moved a significant chunk of their operations to India. This applies both to India's mainstream software development sector, which is primarily located in Bangalore, Hyderabad, Mumbai and New Delhi, and to its call center industry.

A recent report by the McKinsey Global Institute has estimated that companies that have so far failed to shift operations to India – whether it is software development, IT systems integration, customer support, back office work, or personal management – will be at a large and growing competitive disadvantage. This implies in a nutshell that Indian 'brains' may be better utilized in a macroeconomic perspective without altering their physical location. Seen from the lens of 'brain drain' and 'migration of talent' from India to the U.S., this outsourcing now takes on unprecedented importance in the debate.

Assumption # 3) The core of the interest in the migration of the highly skilled remains 'economic'.

In all of the discussion on brain drain, brain gain and future trends of migration flows (either capital or people) the core of the interest in the migration of the highly skilled remains 'economic'. Immigrant selection systems in most receiving countries prefer employment-based classifications that consist of members holding advanced degrees or having exceptional ability in the sciences, arts or businesses. In other words,

people who can contribute to the economy in some way. National complaints about losses through emigration are also couched in economic terms with the presence of a substantial and growing number of educated members of the diaspora in the West. Gains – either through the Diaspora or the return option – are also measured with respect to economic benefits for the home country. The discourse on brain drain or gain, in short, has revolved around ‘economic’ aspect of the migration in general and education in particular.

Assumption # 4) In large source countries, emigrants normally do not affect the well being of the remaining population.

Economic theory establishes a very strong presumption that emigrants do not affect the well being of the remaining population, especially in largely populated countries. According to the marginal productivity theory of wages and interest, emigrants take along both their contributions to and claims on production, thus leaving the other incomes unchanged. Also in terms of free government services, emigrants cease to claim them when they stop paying taxes.

A point to be considered in any debate on brain drain needs to hypothesize about the role these professionals would be playing in their home countries had they not chosen to migrate. If these professionals were to just join the considerable number of unemployed in the country (irrespective of the fact that they were formerly employed), the probability of an even greater drain on the country’s resources would become a possible likelihood. If they would all be virtually unproductive, emigrants could in fact hamper the well being of the remaining population. Finally from the point of view of the

costs involved in their training, to the possible employment of their skills, one must take into account the fact that countries cannot prevent their professionals from leaving even if they wanted to. Some developing countries in fact rely on the foreign exchange of the expatriates that is remitted from abroad. Despite concern about the loss of talent through migration, the single most significant circumstance remaining for almost all sending countries is the relatively little impact of their departure on the economic progress and development of their countries.

OVERVIEW OF THE DISSERTATION

After providing a brief introduction to the discourse on brain drain in this chapter and clearly identifying the central concepts, research questions, hypothesis statement, units of analysis and methodology, the remaining chapters of this dissertation will extend the current discussions on mobility of the skilled people to brain gain strategies by providing the necessary theoretical and empirical evidence.

Part 1 (chapters I – IV) of the dissertation discusses brain drain issues in theoretical and historical perspectives. Chapter II outlines the framework for understanding the brain drain and brain gain perspectives in a theoretical context. Tying in concepts of soft power and development, the positive externalities related to the immigration of skilled people are redefined to argue a macroeconomic reasoning behind brain gain strategies.

Chapter III serves as a background reading with respect to the relationship between the two countries selected for examining the issue of brain drain. The choice of India as the sending and the United States as the receiving country serves as an

interesting study in international relations in light of their growing synergies and partnerships. As a two-part study, the first looks at the historical relationship (political and economic) between them and the second, examines the level and scope of migration flows.

A central point to be discussed in any discourse on brain drain revolves around the immigration policies of the receiving countries. Chapter IV is intended to provide a general overview of the policies governing the temporary and permanent admission of aliens into the United States with emphasis on aliens admitted for higher education or skilled labor jobs. Notwithstanding the much celebrated push-pull theory in migrations, this chapter is purely an attempt to view immigration policies in the United States positively and observe the future of brain drain itself.

Part 2 of the dissertation (chapters V – VII) tests the three hypotheses statements by providing empirical evidence for the role played by the Indian Diaspora in offsetting some of the costs associated with migration with benefits for India. The direct benefits of human capital are measured in chapter V as remittances, return, and transmitting technological know-how by creating knowledge networks between the countries of origin and destination and return.

In chapter VI, it is argued that high levels of education and income provide visibility to the Indo-American community making successes in the host societies easier. Regarded as one of the most important features possessed by them, the large and high-profile presence of Indo-Americans in the IT and Health sectors, the number of CEO's of Indian origin in multinationals, and their presence in the world of international finance and management consultancy has created a new image for them enabling them to

strengthen their position vis-à-vis their country of residence, the United States, as well as their country of origin, India. This chapter brings to the fore concepts of ‘soft power’ where people are seen as wielding power as opposed to military or economics, although in this case economics is closely connected to people. The Indian diasporic community in the United States has on many occasions mobilized their opinion on important issues and played a crucial role in generating a favorable climate of opinion in the Congress. One of the most important roles played by them is the facilitation and promotion of the ongoing Indo-U.S. relations.

Chapter VII discusses the role of the sending country in promoting return and investment. Since ‘return’ poses serious problems with respect to magnitude and accountability, this chapter almost entirely focuses on the role of the state and their policies vis-à-vis their diasporic community. Recent initiatives by the Indian state towards their Diaspora; the economic and political bottlenecks prevalent in the country; and future policy options are explored.

Finally, Chapter VIII offers an assessment of the main findings of this dissertation in the case study of Indian migration to the United States to offer a brief overview of the phenomenon of brain drain and consequently, brain gain strategies. I conclude with the theoretical and policy implications of this dissertation and offer avenues for future research.

CHAPTER II

ALTERNATE THEORETICAL APPROACHES TO BRAIN DRAIN

INTRODUCTION

Discourses on brain drain first appeared in the 1960s with the publication of Gary Becker's book on human capital¹ and Walter Adams' classic book on brain drain. Vastly different in their contents, the former discussed theoretical bases of the human capital while the latter approached the study of brain drain asking the basic question 'what' since the term itself was "loaded, suggestive, pejorative, and indicative of a loss of a vital resource without compensation."² Adams's book also focused on 'when' and 'how' since the movement of people has been going on for centuries and is not a recent phenomenon. Subsequent writings have generated very diverse, and sometimes even opposite approaches to the brain drain issue (the nationalist versus the internationalist models). With a better understanding of the international market for labor, later studies picked on solutions to brain drain making and made way for alternate analyses.

With increasing migration flows from countries in the south to the north, brain gain approaches have been explored in the various policy circles of sending countries. Although the literature linking migration to brain drain is fairly abundant, the literature on brain gain is less visible in migration vocabulary because of conceptual and empirical problems. For example: (1) studies made on migrant *remittances* and savings suffer from measurement problems, (2) gains through *return migration* are beset with methodological

¹ See Gary Becker, *Human Capital* (Chicago: Chicago University Press, 1964).

² Walter Adams, *The Brain Drain: Problem* (New York: Macmillan Company, 1968), 1.

problems due to lack of reliable data with returnees, and (3) the literature on migrant *network approaches* has not gone beyond the stage of conceptual theorizing.

This chapter treats four major themes or questions that have emerged in the study of international migration of the highly skilled people. The first theme looks at the literature available on *brain drain* (origin, concepts, theoretical models, and counter-measures) and at the various theories put forward in the field so far. Secondly, *brain gain* strategies such as remittances, network approaches, and return explore new methods of development for the sending country. Investments in human capital are also linked to gain strategies with knowledge networks emerging in a borderless world transformed by economic globalization. Here the focus is on ‘the role of the sending countries’ as most of the literature on the “politics of control”³ of population movements, have previously focused on receiving societies.

The third theme links the interdependencies between migration and *development*. The brain drain discussion is argued against the backdrop of ‘divergence theory’ where the drain of human capital is seen to cause underdevelopment of the poor periphery. In recent times, ‘convergence and growth theories’ have emphasized benefits for sending countries through out-migration policies, which bring to the fore new paradigms for discussing the brain drain issue.

The last theme discusses migrant or diaspora networks as an important contribution in bridging the gap between international migrations and international relations theories. Within this context, it is argued that the migration of the highly skilled

³ James F. Hollifield, “The Politics of International Migration: How Can We Bring the State Back In?” in *Migration Theory: Talking Across Disciplines* ed. Caroline B. Brettell (New York: Routledge, 2000), 139.

can be effectively utilized as soft power for their countries of origin, redefining notions of asymmetrical interdependence between two countries.

The final section of this chapter integrates all the above themes (brain drain, brain gain, development, and soft power) to give us a comprehensive idea on whether brain drain can be reversed as a brain gain strategy by the sending countries who could use migration as a cure⁴ for development. This chapter further adds to our understanding of the complexities involved in the mobility of the highly skilled people and examines the forms, types, processes, actors, motivations, socio-economic, and cultural contexts associated with brain drain.

BRAIN DRAIN: CONCEPTS AND LITERATURE REVIEW

Prior to the twentieth century, mass migrations occurred either through the transportation of captured slaves in ancient times (involuntary movement of people) or through the practice of large-scale colonization. The sixteenth century is commonly accepted as the starting point of international migration movements in the modern world.⁵ Although colonialism was not strictly draining the skilled from the colonies to the developed western world, it did represent the mobilization of people – skilled and unskilled -- to work in their countries (labor itself is a draining). The concept of drain probably begins during colonialism mostly in terms of economic (raw materials and

⁴ The literature linking migration and development have often labeled migration as causing underdevelopment in a country.

⁵ Except for the Bantu migration in Africa and Vietnamese migration in Asia. By 1000 BC, in a series of migrations, Bantu speakers had spread south to the savanna lands of Angola and east to the Lake Victoria region. Over the next 1500 years they scattered throughout central and southern Africa, interacting with and absorbing indigenous populations as they spread. Vietnamese migration southwards had begun way before the 16th century.

bullion) and population (transportation of slaves and convicts) to America and Australia respectively.

The twentieth century departs in its explanation of 'drain' with people migrating to distant lands to seek livelihood and search for better opportunities or commercial gains. Essentially, while "migration was predominantly forced and coercive during colonialism,"⁶ it became voluntary during post-colonialism.⁷

With immigration laws relaxing in most developed countries, migrations further took the form of 'brain drain' with mass exodus of highly skilled labor taking place from the developing to the advanced, industrial, democracies in the West. The term 'brain drain' is an expression of British origin commonly used to describe one of the most sensitive areas in the transfer of technology. It refers to skilled professionals who leave their native lands to seek more promising opportunities elsewhere. The term is usually defined in its most simplistic form as the emigration of highly educated workers from developing countries to the developed countries. It can also be worded as the loss of skilled intellectual and technical labor through the movement of such labor towards more favorable geographic, economic, or professional environments. Nationalists in the sending countries' often view this as the depletion or loss of intellectual and technical personnel to the advanced countries of the West.

⁶ Nikos Papastergiadis, *The Turbulence of Migration: Globalization, Deterritorialization and Hybridity* (Massachusetts: Blackwell Publishers Inc., 2000), 26.

⁷ In the 20th and 21st centuries there have been involuntary movements of people. Generally referred to as politically displaced persons or refugees, who have been the outcome of civil wars or international conflicts. However, this study focuses on the movement of people at the individual level. Thus implications for brain drain becomes pertinent when specifically look at voluntary migration by individuals. People who migrate can be broadly put in two categories: those who emigrate to work abroad (both skilled and semi-skilled) and those who migrate for higher studies.

The migration of skilled labor during the 1960s and 1970s inspired substantial amounts of literature under the title ‘brain drain’, indicating primarily the source country point of view.⁸ This was hardly surprising as migration tended to mirror both the overall climate of the period and the characteristics of migration flows. Figures 1 and 2 reflect the South to North migration flows from 1960-65 to 1980-85 with countries in Latin America and later Asia as dominant source continents.

Brain drain has also been associated with the phrase ‘migration of talent’ although they differ greatly in scope and meaning.⁹ Where brain drain emphasizes a one-way movement of professionals, ‘migration of talent’ indicates both migrations from the LDCs as well as their return. Thus, scholars have cautioned readers about the indiscriminate use of these phrases as the two concepts carry very different emotive and pejorative connotations.

Walter Adams’ thought provoking book is perhaps one of the best approaches in giving us a balanced attitude towards the international migration of scientists, engineers and workers. Other essays in the book bring to light trends, facts, and complications associated with migration currents. Brinley Thompson’s paper addresses migration flows, its impact on the sending country and the reverse flow of technical assistance to LDCs. Harry Johnson, Don Patinkin, Kenneth Boulding, and Hla Myint appraise the

⁸ These works included among others mentioned above such as Adams 1968, Bhagwati 1976, and Kwok and Leland 1982; H.G. Grubel and A.D. Scott, “The Immigration of Scientists and Engineers to the United States: 1949 – 1961,” *Journal of Political Economy* 74 number 4 (1966): 368-378; H. Johnson, “Some Economic Aspects of Brain Drain,” *Pakistan Development Review* 7 number 3 (1967): 379-411; R. A. Berry and R. Sologi, “Some Welfare Aspects of International Migration,” *Journal of Political Economy* 77 number 5 (1969): 778-794; C. Rodriguez, “International Factor Mobility: Nontraded Goods, and the International Equalization of the Prices of Goods and Factors,” *Econometra* 43 (1975): 115-124; and Jagdish Bhagwati and Martin Partington, *Taxing the Brain Drain I: A Proposal* (Amsterdam: North-Holland Publishing Company, 1976).

⁹ See article by T. K. Oommen.

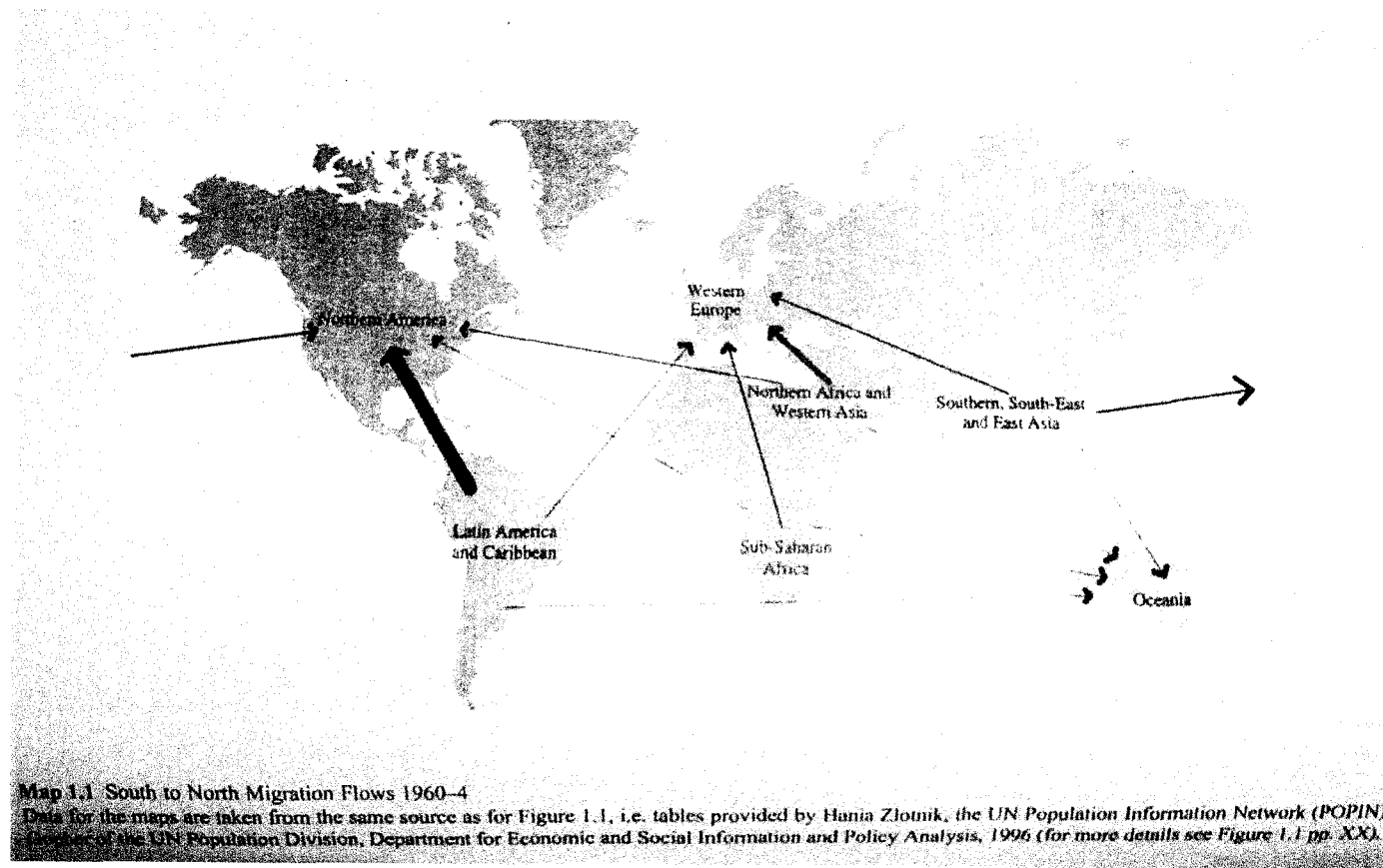
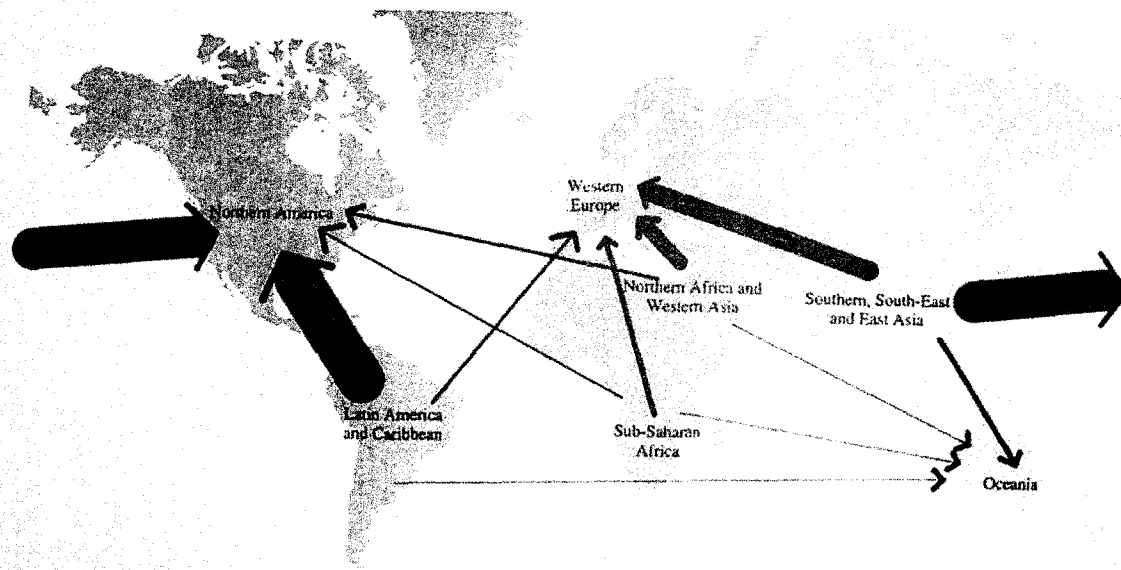


Figure 1. South to North Migration Flows: 1960- 65

Source: Tomas Hammar, Grete Brochmann, Kristof Tamas, and Thomas Faist, *International Migration, Immobility, and Development: Multidisciplinary Perspectives* (New York: Oxford International Publishers Ltd., 1997) 4.



Map 1.2 South to North Migration Flows 1980-5

Data for the maps are taken from the same source as for Figure 1.1, i.e. tables provided by Hania Zlotnik, the UN Population Information Network (POPIN) Gopher of the UN Population Division, Department for Economic and Social Information and Policy Analysis, 1996 (for more details see Figure 1.1 pp. XX).

Figure 2. South to North Migration Flows: 1980- 85

Source: Tomas Hammar, Grete Brochmann, Kristof Tamas, and Thomas Faist, *International Migration, Immobility, and Development: Multidisciplinary Perspectives* (New York: Oxford International Publishers Ltd., 1997) 5.

gains and losses from migration. Johnson proposes a more positive aspect and postulates that free movement of people, like free movement of commodities, will normally increase world output. According to him, if the world output is increased, the gainers – the individual migrant and the country of immigration -- can compensate the losers and still be better off. He specifies the conditions under which this will not be true but thinks that such a combination of conditions is unlikely to occur in practice. For example, educational costs could be repaid either by the migrant or the government of the country to which he moves. He does however end on a negative note since other scholars seemed less optimistic that such compensation schemes could be made effective.

Beyond Adams, the voluminous literature on brain drain gives us a broad idea on the types of studies and research done in this area. First of all, some studies offer definite data on the subject of migration.¹⁰ The literature in these studies talks about the migration of professionals and consists of essays specifying the nature of the problem. At the same time, a number of hypotheses offer insights into the causes and consequences of migration. Other studies focus on the statistical magnitude of the flow.¹¹ A lot of research further attempts to understand the consequences for both the sending and receiving countries, by estimating the cost of the professionals' training and the value of their work. And finally, scholars have attempted to quantify the loss incurred by the home countries by losing these professionals and the gain accrued by the host countries.

¹⁰ See Stevan Dedijar and L. Svenningson, *Drain and Brain Gain: A Bibliography on Migration of Scientists, Engineers, Doctors and Students* (Shurcliff: University of Lund, 1967).

¹¹ See Goran Friberg, *Brain Drain Statistics: Empirical Evidence and Guidelines* (Gotab: Stockholm, 1975).

However, all these studies remain hypothetical in nature, since they lacked questionnaire responses from the migrant professionals themselves. Another problem was the lack of consistent data. Although there was definite data available in the developed countries, there was little or no data available from the countries of origin. Consequently, a large group of scholars wrote about the brain drain phenomenon depending on data collected from receiving countries. Furthermore, since there was no way of quantifying the return of some of these professionals and students, gains could not be easily verified.

The economic approach to questions related to brain drain is well summarized by Borjas, 1989.¹² The neoclassical economic theories that mainly focus on the determinants of migration base their tenets on factors such as (a) rational choice; (b) utility maximization; (c) expected net returns; (d) factor mobility and (e) wage differentials. Here mobility is treated as human capital investment where migration occurs if the benefits outweigh the costs. However, neoclassical economic explanations, although sufficient as theory, do not explain many contemporary realities such as why do few people move and why do some countries have relatively high out-migration rates. Therefore, theorists have disregarded this one-dimensionality aspect to focus on new factors that affect migrations.

Brain drain has also been discussed in terms of laissez-faire economics and in terms of disengagement i.e. "if brain drain is seen as a result of integration into an international market in professional skills then the only way of achieving a substantial impact on the drain (and on the more serious internal distortions that it reflects) is

¹² G. Borjas, "Economic Theory and International Migration," *International Migration Review* 23 number 3 (Autumn 1989): 459.

disengagement from that market.”¹³ Attention has also been drawn to the fact that while on the one hand brain drain reduces professional manpower in the developing countries it can also have the effect of easing population and employment problems there and act as a safety valve.

Other theories have explained the ‘brain drain’ phenomena in terms of asymmetric information regarding the skill levels of immigrants: that is, the host country has more information about immigrant skill than the home country.¹⁴ Finally, some studies have focused on the supply-demand model and argue that the immigration of the professionals from the third world is related to job vacancies, opportunities in other host countries, the flow of other immigrants, and the number of movers in the sending country under consideration.¹⁵

In search of an analytical framework many scholars have tried to come up with models to better explain the brain drain phenomena. In this regard, two contrasting views appear prominent in the debate on brain drain. The first assumes that the enormous investment of scarce resources on higher education in the LDCs is lost through the migration of skilled people from their countries. This is the ‘nationalist’ model,¹⁶ which regards human capital as indispensable to a country’s economic development. This

¹³ William A Glaser and G. C. Habers, *The Brain Drain: Emigration and Return: A UNITAR Study* (Pergamon Press: Oxford, 1978), 6.

¹⁴ See V. Kwok and J. Lenald.

¹⁵ For more details see: D. Devoretz and D. Maki, “The Immigration of Third World Professionals to Canada: 1968-73,” *World Development* 11 number 1 (1983): 55-64.

¹⁶ Patinkin, Don. “A Nationalist Model,” in *The Brain Drain: Problem*, Walter Adams, (New York: Macmillan Company, 1968), p 65.

model suggests that a loss of skilled personnel would ultimately result in the economy being gravely affected and development programs being jeopardized.

However, the 'nationalist model' recognizes the fact that the movement of people or brain drain would occur, as developing countries need to take advantage of the training opportunities in the developed world. Thus it makes various suggestions for both the developed and the developing countries to "minimize the brain drain."¹⁷ For the developed world it suggests that the rich countries should enforce restrictions on immigration (without becoming racial and discriminatory at its borders) and give out research grants to universities in all countries suffering from brain drain.

For the LDCs, this model suggests various policies to diminish brain drain. First, it suggests that these countries encourage a high degree of identification of their skilled and scientific manpower with the development of their country. Second, they must demonstrate to their manpower that they can fulfill a vital role in promoting development. And third, the state must provide for its skilled manpower the conditions necessary to fulfill their scientific aspirations to at least a minimum extent. The nationalist model mostly regards brain drain to be the developing countries' problem since these countries can deal with it "not by the use of force but by persuasion, appeals and a sense of patriotic responsibility."¹⁸

The 'internationalist model,'¹⁹ in contrast, contends that the LDCs exaggerate the problem of migration of the skilled, and only a few of their professionals migrate at

¹⁷ Ibid, 94-99.

¹⁸ Ibid, 108.

¹⁹ Harry G. Johnson, "An Internationalist Model," in *The Brain Drain: Problem*, Walter Adams (New York: Macmillan Company, 1968). Harry G. Johnson is a Professor in the London School of Economics and Political Science, and the University of Chicago.

any given point of time, making very little impact. The internationalist model further contends that the migration of professionals only reflects the operation of an international market for specialized human capital and considers the transfer of talent as mutually advantageous to both the sending as well as the receiving countries and that a *laissez-faire* policy, i.e. non-interference with migration should be followed.²⁰

The internationalist model, notwithstanding previous arguments put forward by the nationalists, questions their assertions and asks whether and in what circumstances, does migration lead to a loss to the world as a whole? Moreover, they want to know whether and in what circumstances does it impose an uncompensated loss on the remaining residents in the countries of emigration?

For the former, the internationalists argue that migration of educated professionals does not produce world losses and on the contrary produces substantial increases in the world economic welfare. For the latter, it is generally believed that the country of emigration obtains some gains in the form of indirect compensations, mostly in the form of emigrant remittances. Past this, the discussion becomes fairly general since 'significant losses' in economic terms is rather fallacious.

Writings by theorists and scholars subsequently concentrated on counter-measures to 'brain drain' including various policy options that might compensate this loss. Three such policy options, namely: *taxation* (compensatory financial measures), *regulation* (financial flows through international norms), and *conservation* (control of emigration) were explored.

²⁰ See: Barry R. Chiswick.

These were:

- *Taxation* received much attention and culminated during the later part of the 1970s and the first part of 1980s by theorists such as Bhagwati. However, the two volumes by him (1976), although classic in its economic study of migration and human capital, need stronger infusions of international trade theorizing before they can be turned into an applicable policy or received theory.
- *Regulations* through international norms had been proposed within the United Nations system (UNCTAD 1983/84, Pires 1992). However, these recommendations could not be enforced and the developed countries continue to apply selective immigration policies regarding highly qualified manpower.
- *Conservation* (restrictive) policies aiming at the retention of skilled people have been and still are implemented in many developing countries. However, their scope and success has been limited since many governments fail to address the basic question of why these individuals might want to migrate in the first place.

Since the mid-1970s, the traditional literature on the subject has experienced considerable renewal, reflecting changes in the brain drain debate. This is largely attributed to the globalization process and the opening up of national resources in a knowledge-based economy. Transfer of money as remittances, as well in investments and savings measures gains. The return of migrants, although negative in the literature, now looks at the positive side and is also better quantified. Also, in the last two decades network approaches or brain circulation have led many conceptual and empirical developments in the studies of brain drain.

BRAIN GAIN: REMITTANCES, RETURN, AND DIASPORA NETWORKS

While many policy makers in the LDCs have been in a panic about the ‘brain drain’ – the departure of skilled professionals for more lucrative jobs and opportunities abroad – recent studies have triggered many debates on whether ‘brain drain’ can be converted into a ‘brain gain’ for the sending country. Almost all of the brain drain literature, coming from a nationalist perspective, talks about economic losses to the sending countries. As an alternative, ‘brain gain’ approaches look at how migration of professionals can eventually benefit the sending country. These have been identified as (1) remittances and savings; (2) return migrations; and (3) Diaspora networks (Figure 3).

(1) Remittances and Savings

Migrant remittances and savings represent one of the most direct and measurable benefits of international migration in migrant-sending areas. Generally they represent both direct and indirect contributions to incomes in remittance-receiving households having profound influences on production, income inequality, and poverty. Remittances also contribute to the national economy when they are measured in a balance of payment framework, compensation of employees²¹, workers’ remittances²², and migrants’ transfers²³ (see Figure 4).

²¹ *Compensation of employees* comprises wages, salaries, and other benefits earned by individuals—in economies other than those in which they are residents—for work performed for and paid for by residents of those economies.

²² *Workers’ remittances* covers current transfers by migrants who are employed in new economies and considered residents there. A migrant is a person who comes to an economy and stays there, or is expected to stay, for a year or more. Workers’ remittances often involve related persons.

²³ *Migrants’ transfers* are contra-entries to the flow of goods and changes in financial items that arise from the migration of individuals from one economy to another.

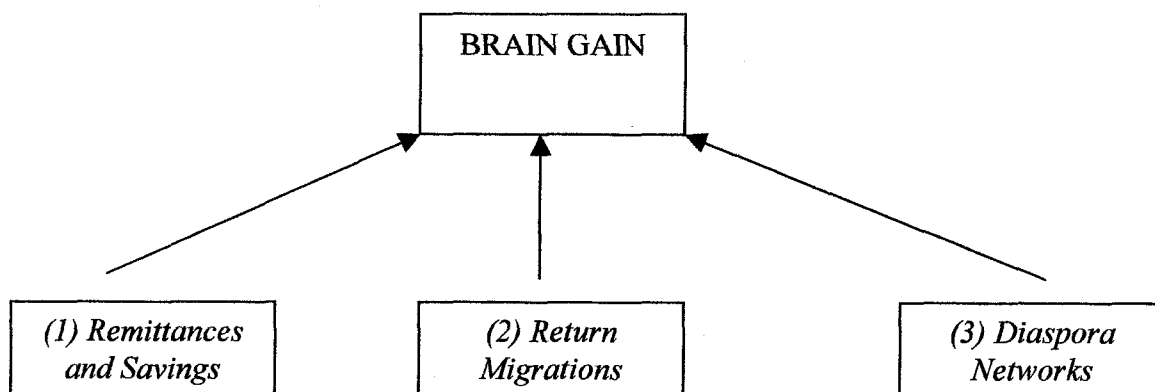


Figure 3. Brain Gain: Remittances, Return, and Diaspora Network

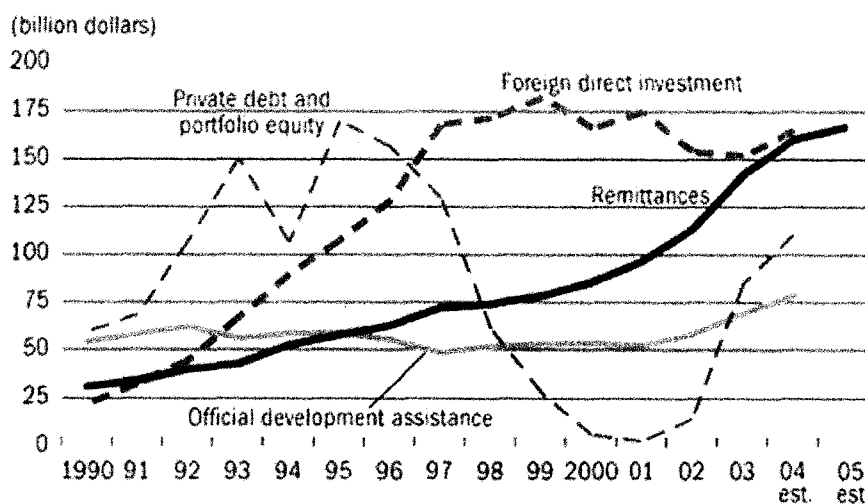


Figure 4. Workers' Remittances and Other Inflows for Developing Countries

Source: Quarterly Magazine of the International Monetary Fund, December 2005, volume 42, number 4, prepared by Dilip Ratha, Senior Economist, Development Prospects Group, and Task Manager, *Global Economic Prospects 2006: Economic Implications of Remittances and Migration*, World Bank.

According to estimates by the International Monetary Fund (IMF) in 2002, remittance income accounted for more than \$80 billion to developing countries making migrants the chief export of many countries in terms of the foreign exchange they generate. To compare, “migrant remittances equaled more than one half the value of total merchandise exports to the Dominican Republic, Egypt, El Salvador, Jordan, Yemen, and Greece.”²⁴ Several developing countries such as Bangladesh, Pakistan, the Philippines, and Sri Lanka hope for and obtain substantial amounts of savings from migrants through remittances. However, it remains unclear how much these countries as a whole gain from remittances.

Region-wise, Latin America and the Caribbean receive the lion’s share of remittances in nominal terms with \$25 billion followed by South Asia with \$16 billion, as per estimates in 2002. Remittance flows also constitute 14% for East Asia and Pacific and 5% for Sub-Saharan Africa in terms of global remittance receipts. For Africa, this picture is heavily skewed by underreporting or complete lack of data as almost two thirds of Sub-Saharan African countries lack data.²⁵ In terms of GDP, South Asia is the largest recipient with remittance receipts amounting to 2.5% of its GDP.²⁶

This dissertation is primarily concerned with remittances coming from legal migrants (skilled, semi-skilled, and highly skilled), as there is an attempt to quantify gain from migration of the highly skilled labor to offset some of the costs associated with

²⁴ Douglas Massey and E.J. Taylor, *International Migration: Prospects and Policies in a Global Market* (Oxford: Oxford University Press, 2004) 1.

²⁵ Data obtained from Cerstin Sander, *Migrant Remittances to Developing Countries* (London: Bannock Consulting, 2003) 1.

²⁶ In the South Asia region, remittances as a share of GDP were most significant for Nepal where they accounted for 14.8 percent of the country’s GDP in 2003, according to World Bank statistics.

brain drain. However, as the beneficial effects of remittances and savings on households is primarily the same for both legal and illegal migrants, examples from Latin America (mainly Mexico) will be provided for better understanding the subject. Also the balance of payment manual published by the IMF does not differentiate between a ‘worker’ and a ‘migrant’, though they differ in definition.

Traditionally, the vast majority of research available on remittances takes on a pessimistic note and paints a negative picture of the implications of remittances and savings for the sending country. For example, Reichert calls the US-Mexico migration – the world’s largest international migration flow²⁷ – an ‘illness’ or ‘syndrome’ that undermines local development; Weist calls it an ‘addiction’; and Stuart and Kearney characterize it as a ‘dangerous dependence’.²⁸ Given the overwhelming use of migradollars for consumption rather than production, prior investigators have concluded that migration to the U.S. perpetuates a state of economic dependency that undermines the prospects for development at both the regional and national levels in Mexico.

However, Taylor gives three reasons for why these studies are unduly pessimistic. First, the sheer magnitude of migrant remittances is large and often underestimated. Second, in the few studies that attempt to measure the effects of international remittances on non-remittance income in migrant-sending households, the effect was positive in

²⁷ Mexican migrants working in the United States annually send or bring back around \$2 billion. Known as migradollars, they would nearly equal: (a) Mexico’s 1990 earnings from export agriculture; (b) 78 percent of its direct foreign investment; (c) 59 percent of its tourist revenues, and (d) 56 percent of its earnings from maquila production.

²⁸ See: Joshua S. Reichert, “The Migrant Syndrome: Seasonal U.S. Wage Labor and Rural Development in Central Mexico,” *Human Organization* 40 (1981): 56-66; Raymond E. Weist, “Implications of International Labor Migration for Mexican Rural Development,” in *Migration Across Frontiers: Mexico and the United States*, eds. Camara Fernando and Robert Van Kemper, 85-97 (Albany, New York: Institute of Mesoamerican Studies, State University of New York, 1979); and James Stuart and Michael Kearney, *Causes and Effects of Agricultural Labor Migration from the Mixteca of Oaxaca to California* (San Diego: La Jolla Center for U.S.-Mexican Studies, University of California, 1981).

stimulating local production. According to Massey and Parrado in 1994, at least \$84 million dollars per year are invested in Mexican business activities as a direct result of migration to the United States.

Finally, migrant remittances create local income multipliers that are often quite large. For example “migradollars have potentially strong multiplier effects throughout the Mexican economy.”²⁹ In addition to raising the incomes of migrant households directly, migradollars also generate a demand for workers to produce the goods and services sought by migrants and their families, and the salaries earned by these additional workers, in turn, raise Mexico’s national income. Multiplier effects also confirm the importance of inter-household linkages in villages in India.³⁰

International financial institutions, such as the World Bank and the International Monetary Fund, compile statistical data that illustrates world distribution of remittances among top remittance receiving countries. With increasing migration flows as a result of globalization, remittances have grown steadily from 1990 with “the United States (US\$ 39 billion) as the highest for outward flow, followed by Saudi Arabia, Switzerland, and Germany (see Figure 5).”³¹ For example, India, a country that did not even feature in the top ten remittance recipient countries in 1990 has become the world’s largest recipient of

²⁹ See Jorge Durand, Emilio A. Parrado, and Douglas S. Massey, “Migradollars and Development: A Reconsideration of the Mexican Case,” *International Migration Review* 30 number 2 (Summer 1996): 423-432.

³⁰ Shankar Subramanian and E. Sadoulet, “The Transmission of Production Fluctuations and Technical Change in a Village Economy: A Social Accounting Matrix Approach,” *Economic Development and Cultural Change* 39 (1990): 131-73.

³¹ Samuel Munzele Maimbo and Dilip Ratha, *When Money Really Matters: Remittances Vital to South Asia*, (2005). Available [Online]:<<http://www.worldbank.lk/>> [22 October 2005].

remittance inflows in 2003-2004, rising to over US\$17 billion in 2003, up from almost US\$14 billion in 2002, and over US\$ 11 billion in 2001.

Interestingly, India and China, two countries with the largest global migrations, report substantial differences in remittance figures. While remittances into China were about one-eighth those to India between 1992 and 2001, foreign direct investment (FDI) from overseas Chinese communities was ten to twenty times more than FDI from the Indian Diaspora. Many policymakers in India attribute this to a lack of interest on the part of the Indian Diaspora coupled with highly bureaucratic procedures and rules. Figure 6 illustrates the top twenty countries in 2004, which received remittances in dollar terms. Interestingly, although the top three recipients of remittances in 2004 were India, China, and Mexico, it were the smaller countries, such as Tonga, Moldova, and Lesotho, that top the list when taken as a share of GDP (Figure 6).

Less developed countries' governments often view emigration as a potential source of savings and foreign exchange. The rise in officially recorded remittances is seen as the result of economic policy changes in many developing countries, which encourage remitters to shift from informal to formal channels to transfer their funds. Efforts to curb money laundering and terrorist financing have also brought more transfers into the official fold. However, estimating the size of international migrant remittances is still a huge problem owing to transfers that take place informally or in kind (Massey and Parrado, 1994). Micro-level studies do gather data, but they are not able to provide information on total incomes within surveyed households. While the level of international migration and remittances continues to grow, data on international migration remains unreliable.

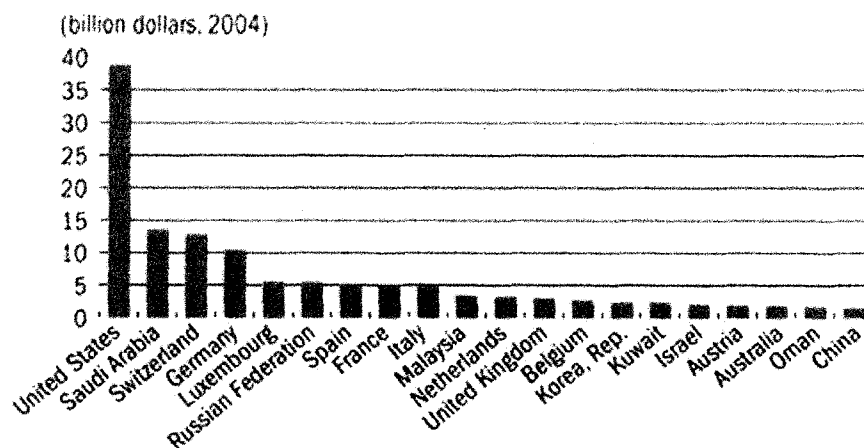


Figure 5. Top Twenty Countries as Sources of Remittances

Source: Quarterly Magazine of the International Monetary Fund, December 2005, volume 42, number 4, prepared by Dilip Ratha, Senior Economist, Development Prospects Group, and Task Manager, *Global Economic Prospects 2006: Economic Implications of Remittances and Migration*, World Bank.

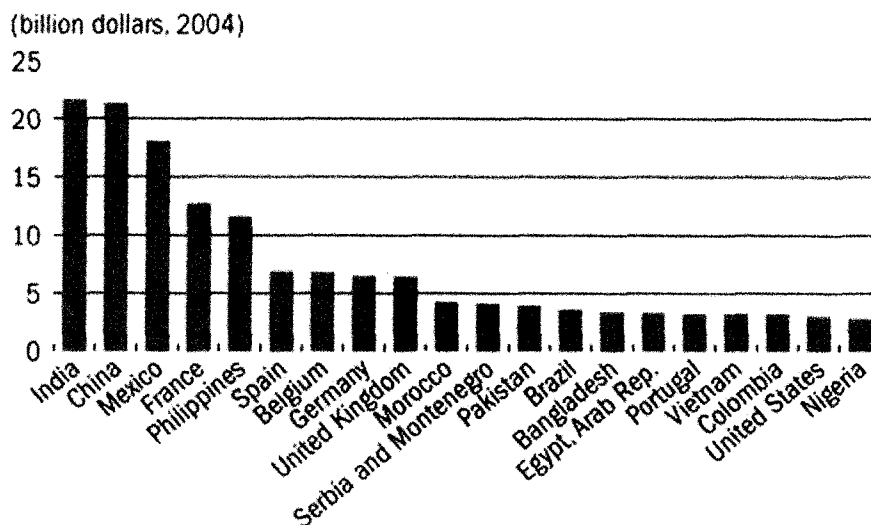


Figure 6. Top Twenty Countries as Recipient of Remittances

Source: Quarterly Magazine of the International Monetary Fund, December 2005, volume 42, number 4, prepared by Dilip Ratha, Senior Economist, Development Prospects Group, and Task Manager, *Global Economic Prospects 2006: Economic Implications of Remittances and Migration*, World Bank.

However, migrant remittances do constitute a large and important source of capital for many developing countries, contributing to domestic savings, easing foreign exchange constraints, and offering a means to finance trade deficits. In 2003, remittances to developing countries totaled some \$93 billion, exceeding development aid from all other sources. Current research is focusing on ways to reduce the cost of remitting funds and on increasing their social impact, by examining six areas, namely: i) the level of remittances; ii) the transfer channels and fees charged; iii) uses to which remittances are put and their impact on recipient families and communities; iv) incentives used by developing countries to attract remittances; v) how the level and use of these remittances are affected by the recipient country's macroeconomic policies and conditions; and vi) the consequent impact on the recipient country.

For an increasing number of labor exporting countries, a lot of attention has been focused on the relationship between international migration, brain drain, and economic growth. Some of the economic costs associated with migration of the highly skilled and the educated are reduced through remittances. Not only are remittances critical to the foreign exchange position of many labor-exporting countries but also play a vital role in the consumption and investment behavior of migrant households themselves. Perhaps because of their importance to both labor-exporting countries and households, remittances tend to be the best measured and recorded aspect of the migration experience.

(2) Return Migrations

International migration today differs in character and scope as compared to the last century when migration was generally seen as a one-way movement primarily from Asia, Africa, and Latin America to Australia, Canada and the United States. It was

generally assumed that those who left the old world never came back to their origin. Since then, migration theory has undergone a fundamental change, moving from the classic “individual relocation” genre initiated by Ravenstein³² a century ago. However, even Ravenstein had noted the principle of return migration in his publicized list of migration laws: “*Stream and Counterstream*: Each main current of migration produces a compensating counter-current.”³³

Return migrations are usually considered as the final phase of the migration project. Periodic returns for short vacation followed by overseas employment within the same migration project are not considered as return migration. In all of the literature on return, there exist some underlying assumptions about return. The first assumption views return as *temporary*, for example migrants who cannot renew their contracts return and then re-migrate for new projects. The second assumption treats return as *permanent but forced to return*. For instance, writings such as one by Hernandez Alvarez, who has written about Puerto Ricans migrants in the 1960s returning to Puerto Rico from the United States as a result of being displaced from their jobs by automation and mechanization.³⁴ King³⁵ and Rhoades³⁶ have also documented the massive return flows of European guest workers or *Gasterbeiter* from Germany and other industrialized northern European nations due to economic recessions. And third, return is chosen

³² Ravenstein, “The Laws of Migration,” *Journal of Royal Statistical Society* LII (June 1889): 288.

³³ Everett S. Lee, “A Theory of Migration,” *Demography* 3 number 1 (1966): 48.

³⁴ Alvarez, J. Hernandez, “Migration, Return and Development,” *Economic Development and Cultural Change* 116 (1968): 574-88.

³⁵ R. L. King, “Return Migration: Review of Some Cases from Southern Europe,” *Mediterranean Studies* 1 number 2 (1978).

³⁶ R. Rhoads, “European Cyclical Migration and Economic Development: the Case of Southern Spain,” in *Urban Life*, eds. G. Gmelch and W.P. Zenner, (New York: St. Martin’s, 1980).

because of *failure or homesickness* (non-economic factors). This has been particularly true for the Israeli, Irish, and Newfoundland migrants.

Migration studies related to ‘return’ draw our attention to typologies of return migration, keeping in mind the basic differences between migrants intending their departure to be permanent and those who intend it to be temporary.

In contemporary use, a wide variety of terms have been used to describe return migration. In its various forms these are:³⁷ (i) temporarily (from short visits to permanent repatriation); (ii) spatially (from one’s original place of origin to a reconstructed homeland); and (iii) legally (from voluntary to coerced movements). In its broadest sense, “return migration has been defined as the movement of emigrants back to their homelands to resettle.”³⁸ Given this understanding, four types of return have been identified in the literature on return with respect to timing and decision-making.³⁹

In this dissertation there is an attempt to look beyond traditional theories of return migration and explain it as a voluntary choice in response to the pull factors at origin (fifth type of return in Table 2). In chapter V, there will be an attempt to explain return with the help of case studies using India as source country and U.S. as host country, where an increasing number of Indians are seen to return voluntarily in response to pull factors at origin.

³⁷ Lynell D. Long and Ellen Oxfeld, *Coming Home: Refugees, Migrants, and Those Who Stayed Behind* (Philadelphia: University of Pennsylvania Press, 2004). The contributors to this volume provide a series of ethnographic case studies to develop a comparative analysis of return.

³⁸ George Gmelch, “Return Migration,” *Annual Review of Anthropology* 9 (1980): 136.

³⁹ Graziano Battistella, “Return Migration in the Philippines: Issues and Policies,” in *International Migration: Prospects and Policies in a Global Market*, ed. Douglas Massey and E.J. Taylor, (Oxford: Oxford University Press, 2004) 213.

Table 1. Types of Return Migration

1. Voluntary	At the end of the migration period	Migrants' objectives are achieved
2. Other factors	Intolerable working conditions, changes in motivation or aspirations, family issues prompting return etc.	Setback for the original project
3. End of the project or contract for which the migrant was hired	Project-tied workers, usually ends with the completion of the economic activity.	Migrants' objectives are achieved
4. Return generated by crises	Retrenchment, repatriation for health or legal reasons, or war-like situations	Setback for the original project
5. Return generated by pull factors at origin	Investments in businesses, health, and education sectors	Migrants' objectives are achieved after they return

Source: Graziano Battistella, "Return Migration in the Philippines: Issues and Policies," in *International Migration: Prospects and Policies in a Global Market*, ed. Douglas Massey and E.J. Taylor, (Oxford: Oxford University Press, 2004) 213.

In the literature associated with return, none of the theories or assumptions put forward so far has explained the return migration of professionals as a voluntary act to invest in home country. So far, migrant professionals have been primarily discussed as an international class of labor operating within the preconditions of global inequality that generate the economic incentives for individuals to leave a less developed country for a developed one. With increased flexibility in the flow of capital and trade goods, return migration has assumed increasing importance as an economic and social strategy for families. It further takes on new meanings that have important political, social, economic, and cultural consequences for the sending country.

Studies relating to return usually discuss problems of economic reintegration and social adjustments of the returnees. In the case of Pakistan, for instance, only half of returnees were able to find employment immediately after return and almost 30 percent remained unemployed after two years. The same result has been found in Kerala, India, Sri Lanka and Bangladesh.⁴⁰ Even though, social adjustments upon return are major issues, the relatively short time spent abroad does not account for changes in community or cultural values. The biggest problems are usually psychological owing to drops in income levels and changes in consumption habits related to unemployment or low-wage employment upon return. In most contexts, return migrants usually exhibit an inclination towards consumption rather than productive investment in industry. Return migrants also

⁴⁰ For Pakistan see: Ijaz S. Gilani, "Pakistan," in *Middle East Interlude: Asian Workers Abroad*, eds. Manolo Abella and Yogesh Atal (Bangkok: UNESCO, 1986); for India see Gopinathan P.R. Nair, "Asian Migration to the Arab World: Kerala (India)," in *Migration to the Arab World: Experience of Returning Migrants*, ed. Godfrey Gunatilleke (Tokyo: United Nations University Press, 1991); For Sri Lanka see Godfrey Gunatilleke, "Sri Lanka," in *Migration to the Arab World: Experience of Returning Migrants*, ed. Godfrey Gunatilleke (Tokyo: United Nations University Press, 1991); and for Bangladesh see Raisul A. Mahmood, "Bangladeshi Returned Migrants from the Middle East: Process, Achievement, and Adjustment," in *Migration to the Arab World: Experience of Returning Migrants*, eds. Godfrey Gunatilleke (Tokyo: United Nations University Press, 1991).

encounter difficulties in finding employment in the home country, thus preferring to establish their own small businesses.

Thus return typologies, although useful for policy analysis, are not useful in describing determinants of return migration.⁴¹ While economic factors are cited as the most relevant motivation for the decision to migrate (push factors at the origin and the pull factors at the destination), personal and family aspects seem to play an important role in the decision to return.⁴² Even though a number of migration theories (Massey et al. 1993)⁴³ explain why international migration begins, much less effort has been dedicated to explaining return.

Economically speaking, the return of certain professional groups does have some benefits for the home country. Investments, usually in businesses, health, and education sectors stimulate economic growth and act as a means to counter dependency on foreign capital. However, as illustrated by a United Nations report in 1997, “return migrations can only have a positive impact on development when the country of origin provides a proper social and economic environment for the productive use of the skills and savings of return migrants.”⁴⁴ It is not by accident that the most successful cases of return policies have been found in the Newly Industrialized Countries (NICs), where scientific,

⁴¹ See Rosemarie Rogers, “Return Migration in Comparative Perspectives,” in *The Politics of Return*, ed. Daniel Kubat (Staten Island, New York: Center for Migration Studies, 1984).

⁴² See W. Dumon, “Problems Faced by Migrants and their Family Members, Particularly Second Generation Migrants, in Returning to and Reintegrating into their Countries of Origin,” *International Migration* 24 (1986): 113-28.

⁴³ These include: (i) neoclassical economics: macro theory; (ii) neoclassical economics: micro theory, (iii) new economics of migration; (iv) dual labor market theory; (v) world systems theory; (vi) network theory; (vii) institutional theory and (viii) migration systems theory.

⁴⁴ See United Nations Secretariat, Population Division, *International Migration and Development: The Concise Report* (New York: United Nations Reproduction Section, 1997).

technological, and industrial sectors have already advanced, and where the manpower may effectively be employed (for example, India, Singapore, South Korea and Taiwan).

In addition to sending country governments, many international organizations have also come up with programs to better facilitate the return of the skilled migrants. Regarded as carriers of capital, technology and entrepreneurship, skilled migrants are seen as contributing to the development of their native communities. United Nations Development Program's Transfer of knowledge through Expatriate Nationals (TOKTEN) helps many qualified expatriates to return to work in their countries on specific projects on a volunteer basis. These programs, however, have been most successful when they have been supported by their active Diaspora organizations.

(3) Diaspora Networks

The notion of migration networks has a long tradition and goes as far back as early 20th century with Polish peasants in Europe and America.⁴⁵ In contemporary terms, it remains important in its explanation of the movement of the highly skilled people. Migration networks have been defined as sets of interpersonal relations that link migrants or returned migrants with relatives, friends or fellow countrymen at home. "They convey information, provide financial assistance, facilitate employment and accommodation, and give support in various forms."⁴⁶

For the past two decades, network approaches have led to many conceptual and empirical developments in the studies of network analysis with important implications for

⁴⁵ See W.I. Thomas and F. Znaniecki, *The Polish Peasant in Europe and America* (Boston: William Badger, 1918-20).

⁴⁶ Joaquin Arango, "Theories of International Migration." in *International Migration in the New Millennium: Global Movement and Settlement*, Daniele Joly (Burlington: Ashgate Publishing Company, 2004) 28.

brain drain. Gains through diaspora networks are the most recent policy that has come under full implementation with regards to migrations of highly qualified human resources. As a brain gain strategy it differs from the return in the sense that it does not aim at the physical repatriation of the nationals living and working abroad. Its purpose is the remote mobilization of a Diaspora's resources and their association to the country of origins' programs for example, China, Colombia, and some African countries.

Surprisingly, the abundant literature available on the migration of highly skilled persons, in particular – the so-called brain drain – only recently refers to networks as brain gain attempts through diaspora networks. The human capital paradigm, important in the discussion on brain drain, with theoretical bases going back to Gary Becker's book (1964, 1993) fails to bring operational solutions to the issue. And despite tireless efforts of definition and standardization of categories (CNUCED/UNCTAD, 1984), there exists no consensus on human capital models and the international allocation of resources connected with knowledge carriers. Human capital models linked to brain drain are based on the assumption that accumulation of skills corresponds only to the education phase and fails to take into account when and where their skills have been developed. Since "education and training are the most important investments in human capital"⁴⁷ previous discourses in associating brain drain with human capital deserves reconsideration. In addition, growth theories emphasize the role of knowledge in the development process with an increasing number of skilled emigrants⁴⁸ or human capital

⁴⁷ Gary Becker, *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education*, 3rd edition (Chicago and London: The University of Chicago Press, 1993), 17.

⁴⁸ See N.U. Haque and S. Kim, *Human Capital Flight: Impact of Migration on Income and Growth, 1994*, IMF working paper, International Monetary Fund (Washington D.C., 1994); W. Carrington and E. Detragiache, "How Extensive is the Brain Drain?" *Finance and Development: A Quarterly Magazine of the IMF* 36 number 2 (June 1999).

forming networks of highly skilled expatriates. This vision, which emphasizes potential gain instead of immeasurable loss, can be considered as a paradigmatic shift from the earlier literature on loss of human capital as contributing to brain drain.

The rise of highly skilled diaspora networks is fairly significant in the last couple of decades. These networks link groups or individuals of expatriate intellectuals, who have retained ties to their countries of origin. Some scholars have termed them as transnational migration circuits, transnational social fields, transnational communities, and even bi-national societies. Commonly referred to as Diaspora⁴⁹ some generalized relationships between migrants and their home and host country have emerged.

Diaspora members usually demonstrate a high stability factor and a commitment to the host as well as to their home country. However links to the country of origin remain less professionally oriented and more personal, with personal connections being more visible in the host country. For instance, one study on South African expatriates shows only a 37 percent professional contact with their country of origin as opposed to 54 percent maintaining personal or family contact.⁵⁰

Most Diaspora members are well settled in their adopted countries and far from being wandering intellectuals and business nomads, constitute one of the wealthiest, educated, and professional group with employments in senior and executive positions. Retaining strong emotional ties to their country of origin, they usually bring benefits through extensive socio-professional networks. Usually this is done through formal,

⁴⁹ See R. Cohen, "Diasporas and the Nation-State: From Victims to Challengers," *International Affairs* 72 (1976): 507-520.

⁵⁰ See D. Teffera, "Revisiting the Doctrine of Human Capital Mobility in the Information Age," in *Brain Drain and Capacity Building in Africa, ECA/IDRC/IOM*, United Nations Economic Commission for Africa (London: International Organization for Migration, 2000).

institutionally organized, networking. Overseas nationals are often able to leverage a network to raise funds, get mentorship, access distribution channels, promote the image of their country through their successes, and spawn more enterprise. “This kind of network usually becomes a social project, a quasi-institutional form of community generation instead of its by-product.”⁵¹ Diaspora networks thus provide access to the emerging technology, financial resources and physical capital of the developed world. The Asian tigers⁵², a case in point, have benefited immensely from the diaspora networks of their professionals in research institutions and corporations abroad. The remote mobilization of intellectuals abroad and their connection to scientific, technological and cultural programs at home normally includes:

- The facilitation, generation, discussion, exchange, and dissemination of ideas and innovative approaches in various subject areas, thereby harnessing knowledge/intellectual capital that can help to foster development;
- The help to nurture and provide intellectual support and mentorship to young, emerging leaders (in the case of Africa); and
- The formation of professional, business, political, and social networks and alliances that can serve to advance discourse and action on various issues that are critical to progress.

The development of expatriate knowledge networks provides a unique opportunity to study the diasporic populations. Studies done on the networks of two countries, Colombia and South Africa: The Colombian Network of Scientists and Engineers Abroad (“red Caldas”) and the South African Network of Skills Abroad (“SANSA”) provide important evidence linking diasporas to their countries of origin

⁵¹ See J.B. Meyer.

⁵² The East Asian Tigers, sometimes also referred to as Asia’s ‘Four Little Dragons’, refers to the economies of Taiwan, Hong Kong, South Korea, and Singapore; these territories and nations are noted for maintaining high growth rates and rapid industrialization between early 1960s and 1990s.

through networks. These transnational relationships between the diaspora networks and their countries of origin depend on a number of factors that strengthen the link between them. They are: (i) availability of information and communication networks; (ii) the increasingly important role migrants play in sending country economies; (iii) attempts by sending states to legitimize diaspora populations by providing services to migrants and their children; and (iv) the social and political marginalization of migrants in their host countries.⁵³ In addition, deregulations of international financial markets coupled with new technologies have made network connections increasingly important as brain gain strategies.

An OECD working paper⁵⁴ also identifies the application of new information technologies as causing a reduction in the international migration of the highly skilled. Since knowledge is transferable geographically in a number of ways not requiring physical presence, diaspora networks become more viable than ever. Modern satellite and fiber-optic communications, faxes and emails make it easier to establish network links with the diaspora, highly skilled groups whose main contribution is knowledge.

Although the concept of the diaspora as a 'brain bank' from which knowledge can be borrowed is not new, the concept takes on new and promising dimensions with the growth of 'knowledge networks' in the last ten years (41 highly skilled diaspora networks emerged between the late 1980s and the end of 1990s). Expatriate professionals can promote the exchange of skills and knowledge, especially in countries where they are

⁵³ See R. C. Smith, "Transnational Migration: Assimilation and Political Community," in *The City and the World: New York City in a Global Context*, ed. M. Crahan and A. Vourvoulias-Bush (New York: Council on Foreign Relations, 1997).

⁵⁴ Organization for Economic Cooperation and Development, *International Trade in Professional Services: Advancing Liberalization Through Regulatory Reform*, (Danvers, MA: Clearance Center, 1997).

residing in large numbers such as the United States. Diaspora networks can thus be important channels for knowledge transfers through what the International Organization for Migration (IOM) calls “virtual return migration” as opposed to physical travel.

Thus, highly skilled expatriate networks, through a connectionist approach linking Diaspora members with their countries of origin, turning brain drain into a gain approach with important implications for development.

BRAIN DRAIN AND BRAIN GAIN: ROLE OF THE STATE

Theories of international migration have paid little attention to state interventions, while the literature on international relations says relatively little about population movements, except the refugee phenomenon that has been described as an outcome of conflicts.⁵⁵ Questions such as, how do state actions shape population movements, when do such movement lead to cooperation and not conflict and can international migration shape the future of international relations between countries,⁵⁶ are questions that have received far too little attention. The role of the state in initiating, selecting, restraining, and ending international migration movements⁵⁷ has been surprisingly deficient in international migration theories.

So far, studies on ‘role of the state’ have been limited to *immigration policies* of the receiving countries. Largely concerned with the effect of illegal immigration on demographic composition, very few studies focus on the role played by legal migrants in

⁵⁵ See Aristide, R. Zolberg, A. Suhrke, and S. Aguayo, *Escape from Violence: Conflict and the Refugee Crisis in the Developing World* (New York: Cambridge University Press, 1989).

⁵⁶ See Myron Weiner, *International Migration and Security* (Westview: Boulder, 1993).

⁵⁷ Michael S. Teitelbaum, “The Role of the State in International Migration,” *World Affairs* 8 number 2 (Winter 2002): 157.

host countries and the dynamics between sending and receiving countries. For example U.S. migration relations with major labor-sending nations such as the Philippines, Korea and Taiwan have not been studied in detail.”⁵⁸

Receiving societies, both historically and contemporarily, welcome global citizens who contribute most to their economy. For a long time, there has been a general awareness of the various benefits to the US population by capturing the mobile, skilled foreign professionals. The reasoning behind this statement lies in the assumption that individuals increase or at least do not decrease the per capita income of the receiving societies. Empirical evidence proves that immigration, being selective through a set of laws and regulations, prefers legal migrants with a definitive skill set.

Governments in receiving countries, more often than not, try to admit migrants selectively, using instruments ranging from visa restrictions and border controls to legislated criteria for admission – age, wealth, education, national origin and family ties.⁵⁹ In addition, lower costs of transportation and communication has increased free labor mobility facilitating easy migration to take place to the rich, industrial countries of the West. Most of these countries and continents have tried to limit this to legal migration and the migration of the highly skilled as opposed to illegal⁶⁰ or unskilled labor work force.

⁵⁸ Christopher Mitchell, “International Migration, International Relations and Foreign Policy,” *International Migration Review* 23 number 3 (Autumn 1989): 694.

⁵⁹ World Development Report, *Workers in an Integrating World* (New York: Oxford University Press, 1995), 67.

⁶⁰ United States has the greatest number of illegal migrants, perhaps as many as 4 million; Western Europe has about 3 million, mainly from Africa.

In the United States, the criteria for selection for these specialty workers suggest that it has been designed to pull in or drain the best from the source countries. Clauses such as, 'must hold a U.S. baccalaureate or higher degree as required by the specialty occupation from an accredited college or university'⁶¹ in it has fixed the ceiling for workers with a graduate degree. In addition, the Immigration & Naturalization Services (INS) determines whether the specialty occupation is a combination of education, training, and/or experience. Specialty occupations usually include computer systems analysts and programmers, physicians, professors, engineers, and accountants under the category H1-B. In this regard, the predominance of Asians in the "new waves"⁶² of immigrants admitted to the United States has been widely documented in the literature.⁶³ The article by Kanjanapan reveals that the recent flows of Asian professionals to the United States based on the Immigration & Naturalization Service data for the fiscal years 1988 – 2004, possess high levels of skills and education. Recently in Germany, the Former German Chancellor Gerhard Schroder also issued 20,000 green cards to computer and software specialists from outside the European Union (EU) as a competitive strategy vis-à-vis the United States in an obvious attempt to recruit skilled manpower to benefit the German economy.

The role of the state of the sending country also deserves attention with respect to brain gain strategies. This becomes important for both policy implications in general,

⁶¹ U.S. Department of Homeland Security, *2004 Yearbook of Immigration Statistics* (Washington D.C.: Office of Immigration Statistics, 2006).

⁶² Wilawan Kanjanapan, "The Immigration of Asian Professionals to the United States: 1988 – 1990," *International Migration Review* 29 number 1 (1990): 7.

⁶³ J.M. Liu, I. M. Ong, and C. Rosenstein, "Dual Chain Migration: Post 1965 Filipino Immigration to the United States," *International Migration Review* 25 number 3 (1991): 487-515; and M. Wong and C. Hirschman, "The New Asian Immigrants," in *Culture, Ethnicity and Identity: Current Issues in Research*, ed. W.C. McCready (New York: Academic Press, 1980).

and development in particular. Both 'return' and 'non-return' yields definite benefits for the sending countries with the roles of the respective governments being deemed as crucial in encouraging and fostering diaspora links.

The relative success of Chinese (Taipei), Korea, and Ireland in fostering return migration has been attributed to the opening of their economies and adopting policies that fosters domestic investments in innovation and in R&D. Developing countries with some infrastructure in R&D, such as India, are beginning to attract the return of their highly skilled migrants, as well as their money and business contacts. China represents one of the best examples of how governments can carefully cultivate their populations abroad and convert brain drain into a gain. Popularly termed as the 'Bamboo Network' overseas Chinese comprising fifty five million people, together earning about US \$700 billion per year "provide up to US \$ 1.5 to 2 trillion of floating capital to Chinese diaspora businesses around the world, investments in foreign enterprise, *and investments in China.*"⁶⁴ Although China still suffers from brain drain, a lot of effort is being made by the Chinese government to attract its nationals to return or remotely reinvest in China.

Hungarian scientists have also started to returning home, helping reverse years of brain drain. According to one study,⁶⁵ it has been generally observed that "scientists come back bringing new techniques, international connections, and good publication records, which makes them more attractive to grant agencies, so they might bring in more support." The 'International Organization of Migration' (IOM) has also discussed extensively how brain drain can be reversed as brain circulation. IOM's 'Migration for

⁶⁴ McKinsey & Company, *Indians Without Borders* (New Delhi: Federation of Indian Chambers of Commerce and Industry, 2003) A3.

⁶⁵ Jane Burgermeister, *Brain circulation in Hungary*, (2004). Available [Online]:<
<http://www.biomedcentral.com/news/20041126/02> >[11 April 2005].

Development in Africa (MIDA)' during its 84th Council Session, held on 2nd-4th December 2002, looked at 'transfer of expertise' as one possible solution for development in the region.

Thus, "scientific diaspora" and "immigrant entrepreneur networks" can also help sending countries capture benefits and know-how from emigrants overseas. Grass roots initiatives in South Africa and Latin America have been developed to link researchers abroad to networks in their home countries. Indian professionals in the US have been the primary drivers of knowledge and capital flows to India. The Indian government has contributed to the emergence of these private networks through legislative and tax rules that encourage remittances and investment from Indians abroad. The diaspora idea has also been put to work by advanced countries, like Switzerland, whose online network www.Swiss-List.com had been established to encourage networking among Swiss scientists in the US and to foster contacts with peers in Switzerland.

Governments in sending countries can and have done quite a bit in addressing the problem of brain drain. As one initiative, they are developing centers of excellence for scientific research and framing the conditions for innovation and high tech entrepreneurship to make their country attractive to highly skilled workers, both from within the country and from outside. For instance, India's investment in human resources in science and technology and own R&D capabilities dates from the 1950s. And China has recently launched a project to develop one hundred universities into world-class institutions that not only provide higher education training, but also academic employment and research opportunities.⁶⁶

⁶⁶ Billion-dollar initiatives such as the 2/11 campaign and the Elite University Program have boosted the number and quality of local universities. Through the 2/11 campaign the government spread about \$2.2

Irrespective of these initiatives, common political and bureaucratic hurdles in the home country also goes a long way in explaining the driving force behind out-migration flows to countries with higher income opportunities and better working conditions and a lack of return. Some common hurdles associated with return include unattractive facilities for work, the recruitment of people remaining selective and corrupt, and lower salaries than what they were earning abroad.

Several scholars have put forward possible remedies for sending countries to try and recover losses caused by brain drain. These include:⁶⁷

- Upgrading the quality and status of public services:
- Raising the standards of tertiary education
- Making better use of existing national capacity
- Restricting the use of technical cooperation to where it is needed
- Bonding of university graduates to national service
- Immigration restrictions in receiving countries
- Brain gain: with returning migrants bringing back foreign education, valuable management experience, increased ties to foreign research institutions and access to global networks.

The migration of the highly educated and skilled labor to the West for better salaries, education, and working conditions has usually resulted in a national loss for the countries of origin. Although remittances and other forms of investment benefit the home country, a large part of this virtually depends on the role that sending countries'

billion among 100 universities, while the Elite University Program spread about \$1.2 billion among 10 top universities. Overall, 2.9 percent of the country's gross domestic product goes to education. The government wants every middle school and most primary schools to be connected with the Internet by 2005. Source: Michael Kanellos, *Tapping brainpower: New generation of engineers*. Available [Online]: <<http://news.com.com/2009-1001-940319.html>> [15th May 2005].

⁶⁷ Carlos Lopes and Thomas Theisohn, *Ownership, Leadership and Transformation: Can We Do Better for Capacity Development* (London and Sterling: Earthscan Publications Ltd, 2003) 124-126.

states might play to stimulate this investment and development. On the whole, the 'role of the state' of sending countries remains one of the most understudied fields in international migration flows of the highly skilled.

BRAIN DRAIN AND (UNDER) DEVELOPMENT

The post-colonial era began around the 1950s with great enthusiasm and optimism revolving around the development of Africa, Asia, and Latin America. It was generally assumed that investment, *education*, and modern management would be sufficient for their economic growth. The more prosperous countries usually helped by donating or lending resources, as was the Marshall Plan in Europe. A lot of it involved creating and staffing training centers in those regions and by welcoming a large number of foreign students in their countries.⁶⁸

However, by the 1960s the development process remained uneven and international gaps between the developed and the less developed countries widened rather than narrowed. There was also a growing demand for migrants to work in the service sectors in the developed countries. With immigration laws relaxing in the developed world, this migration soon became a trend with both students and educated professionals leaving their home countries. 'Brain drain' thus became a common terminology with people in the developing world protesting against the richer countries for 'raiding'⁶⁹ their talent.

⁶⁸ A study on the PhDs and their mobility has been prepared by the National Research Council, National Academy of Sciences, Washington D.C. in 1971.

⁶⁹ See William A Glaser and G. C. Habers.

Brain drain has been associated with underdevelopment since educational levels, to a large extent, determine why some countries are rich while others are poor. With the highly educated people leaving the country it is generally assumed that the nation incurs substantial losses in the money it put in the training of the individual. And with an increasing number of scientists, engineers, physicians, and other professionals from developing countries leaving to work in Canada, the United States, and Western Europe, 'brain drain' becomes a contentious issue in the North-South debate. Not only is the pool of skilled workers in the receiving country better educated and therefore contributing more to the host economy than the native worker but is also endorsing the fact that, by investing in education in a developing country may not lead to faster economic growth. Thus any discussion linking brain drain to underdevelopment needs to first ask how extensive is this brain drain and second, how can this lost human capital be utilized to augment development in the sending country. The first question examining 'extent' usually depends on the magnitude of the flow and on the international focus it received.

Despite the lack of systematic data about international migrants, William J. Carrington and Enrica Detragiache⁷⁰ try to estimate the extent of brain drain by studying immigration into the United States by educational category. Among their most important conclusions they find that; (a) immigration flows of individuals with no more than a primary education are quite small, both in absolute terms and relative to other educational groupings; (b) the largest group of immigrants into the United States consists of individuals with secondary education from other North American countries, primarily Mexico; and (c) the second largest group consists of highly educated migrants from Asia and the Pacific. Among the countries in Asia and the Pacific, the majority of people from

⁷⁰ See W. Carrington and E. Detragiache.

countries such as China, India and Philippines have tertiary education. Ultimately, it should be remembered that although the volume of skilled migration is relatively small as compared to the migration of unqualified workers, its social and economic relevance is high for both the sending and receiving countries.

At the international level, brain drain issues were formally addressed in the United Nations General Assembly for the first time in 1967. The United Nations, fearing that 'brain drain' issues would jeopardize the United Nations' second decade of development, introduced various resolutions sponsored by developing countries. These countries essentially had the demand that its richer members, in particular the United States, change their migration policies and encourage foreign students to learn skills that would also be beneficial to the home country, and eventually encourage these students to return. In this way, compensation to the developing countries could be made for the losses accrued by this migration. Second, resolutions were adopted with a view to obtaining reliable facts about the magnitude, causes, and consequences of brain drain. The United Nations Institute for Training and Research (UNITAR) also came up with a report that compiled facts about the outflow of trained professionals from developing countries.⁷¹

The United Nations General Assembly in its resolution 49/127, notes the positive impact that international migration could have on development process of both the sending and receiving nations. In one of its resolutions on notes that:

⁷¹ See Gregory Henderson, *Emigration of Highly-Skilled manpower from the Developing Countries* (New York: UNITAR, 1970).

“Bearing in mind that orderly international migration can have positive impacts upon development and varied impacts upon both sending and receiving countries,”⁷²

And in resolution 50/123, recognizes the importance of identifying the linkages among the social, economic, and cultural factors that relates international migration and development.

“Urges Member States and the United Nations system to strengthen international cooperation in the area of international migration and development in order to address the root causes of migration, especially those related to poverty, and to maximize the benefits of international migration to those concerned and increase the likelihood that international migration has positive consequences for the sustainable development of both sending and receiving countries;”⁷³

Through some of these studies and international efforts it may be fairly safe to conclude that brain drain is fairly extensive and there is an overall tendency for migration rates to be higher for highly educated individuals with negative impact for the sending country. With the important exceptions of Central America and Mexico, the highest migration rates are for individuals with a tertiary education.

At this stage it may also be worthwhile to examine what causes⁷⁴ educated people to leave their home countries and its implications for the core-periphery debate, since it is closely related to development.

⁷² UN General Assembly, *Resolution 49/127*, (1994). Available [Online]:<<http://www.un.org/documents/ga/res/49/a49r127.htm>>[3 September 2004].

⁷³ UN General Assembly, *Resolution 50/123*, (1994). Available [Online]:<<http://www.un.org/documents/ga/res/50/a50r123.htm>>[3 September 2004].

⁷⁴ Some of the causes analyzed are wage differentials, differences in the quality of life, educational opportunities for children, and job security may also play a role, as may the desire to interact with a broader group of similarly skilled colleagues and in some cases an escape from the political tyranny existing in the country.

One of the underlying assumptions of migration theory has been that the movement of people from areas that had abundant labor but scarce capital to areas that were rich in capital and short of labor.⁷⁵ Modernization theory, one of the correlates of neoclassical thought, essentially came up with a model of development that would result in balance between resources and population pressures and the ultimate elimination of differences between rural-agrarian and urban-industrial areas. In other words, migrants, through savings and investment, *become agents of change in their home countries*.

However this has not always been the case since a lot of the money spent has ended up being spent on consumer items and not for economic investment, and the skills learned abroad could not be easily applied to the rural home context.⁷⁶ Thus population movements have often resulted in migration-dependent communities and the generation of further migration through the diffusion of consumerism. Looking at the obvious shortcomings associated with the modernization theory, scholars have taken a more macro-level approach when dealing with issues linking population movements and development.

The reason why individuals respond to structural differences between countries or regions and engage in migration is explained by the micro version of neoclassical theory by Todaro. Migration is seen as a result of individual decisions made by rational actors who seek to improve their well being by moving to places where the reward of their labor

⁷⁵ See B.D. Lewis and E. Thorbecke, "District level Economic Linkages in Kenya: Evidence Based on a Small Regional Social Accounting Matrix," *World Development* 20 number 6 (1992): 881-897; G. Ranis and J.C.H. Fei, "A Theory of Economic Development," *American Economic Review* 51 (1961): 533-565; J.R. Harris and M. P. Todaro, "Migration, Unemployment, and Development: A Two Sector Analysis," *American Economic Review* 60 (1970): 47-57; and M.P. Todaro, *International Migration in Developing Countries* (Geneva: International Labor Office, 1976).

⁷⁶ See Katy Gardner, *Global Migrants, Local Lives: Travel and Transformation in Rural Bangladesh* (Oxford: Clarendon Press, 1995); and George Gmelch.

will be higher than that at home, in a measure sufficient to offset the tangible and intangible costs in the move. Although this move was the result of an individual's decision, spontaneous and voluntary, it found resonance in the historical-structural inspiration, with its strong Marxist overtones, embodied in dependency theory.

Dependency theory draws broadly on Marxist thought and more specifically on the work of dependency theorists such as Andre Gunder Frank,⁷⁷ and the world systems theorists such as Immanuel Wallerstein.⁷⁸ These theories frame migration in the context of a global economy, core-periphery relations, and the development of the under-developed regions. It posits that the evolution of capitalism has given way to an international order composed of core industrialized countries and peripheral agrarian ones linked by uneven and asymmetrical relations, where the advancement of the former rests on the exploitation of the latter. "Dependency theory has little to say about migration, at least in the international context, except that one of the mechanisms through which inequalities between countries were perpetuated and reinforced, were through brain drain."⁷⁹

Within this perspective, concepts such as the international division of labor or the internationalization of the proletariat have emerged to describe the inequities between labor-exporting, low-wage countries and labor-importing, high-wage countries. "Thus in

⁷⁷ See Andre Gunder Frank, *Capitalism and Underdevelopment in Latin America* (New York: Monthly Review Press, 1967).

⁷⁸ See Immanuel Wallerstein, *The Modern World-System: Capitalist Agriculture and the Origins of the European World Economy in the Sixteenth Century* (New York: Academic Press, 1974).

⁷⁹ Daniele Joly, *International Migration in the New Millennium: Global Movement and Settlement* (Burlington: Ashgate Publishing Company, 2004) 19.

one sense development encourages migration as it creates inequality and raises awareness about the larger society and hence enhances a relative sense of deprivation.”⁸⁰

At the international level, various policies and agendas such as the one held in Geneva in 2005, outlines the importance of *partnership* in bridging migration and development.⁸¹ These are identified as key to fostering development in countries with high levels of out-migration. These include:

- The importance of partnerships in bridging migration and development
- Partnerships for development: harnessing the potential of migration for development
- Bilateral partnerships between governments of countries of origin and destination
- Partnerships between governments of origin and destination countries, international organizations and migrants’ associations/diasporas

The overall objective of the workshop was to examine why migration should be considered a development issue and to look at the synergies and points of contact between migration and development agendas with special focus on partnerships and cooperation, and the engagement of the highly skilled diaspora.

Migration both affects and is affected by socio-economic development. However, given the multiple ways in which international migration can interact with development and the tendency of research to focus on just a few interactions, current knowledge

⁸⁰ Caroline B. Brettel, “Theorizing Migration in Anthropology: the Social Construction of Networks, Identities, Communities and Global-spaces,” in *Migration Theory: Talking Across Disciplines*, ed. Caroline B. Brettel and James F. Hollifield (New York: Routledge, 2000), 103.

⁸¹ A recent workshop on migration and development, titled ‘Mainstreaming Migration into Development Policy Agendas’ and held on 2-3 February 2005 in Geneva

regarding the interrelations between international migration and development is far from complete and few generalizations are possible.

Interdependencies between migration and development primarily ask two questions: *does development trigger migration and/or does migration trigger development?*

For the former it would appear that brain drain occurs from the most poor, highly populated and environmentally undesirable regions. In short, regions that can be considered low in the Human Development Index (HDI) or those that are far behind in the development process. Historically, waves of migration have occurred from LDCs mostly as labor flows, an element that determined the rate of economic growth in both the sending and the receiving countries.⁸² However, the truth is that brain drain is most likely to occur from countries that have reached a level of development and are advancing in the development path. The loss of 'brains', in particular the international migration of scientific and technical personnel, to developed countries is termed as a loss given the data, that the best trained and most intellectually qualified prefer to move abroad. Economic schools of thought put forward the 'divergence theory', that argues that out-migration may in effect be an obstacle for the socio-economic development of sending countries. The brain drain discussion with loss of valuable human capital is an important example of the divergence school.

For the latter, the classic economic theory of the so-called 'convergence school' argues that sending countries obtain major benefits from out-migration for their

⁸² There were four outstanding transatlantic outflows of migrants from Europe – 1844-54, 1863-73, 1881-88, and 1903-13.

development process. Many empirical studies⁸³ indicate that on the whole migration seems to have positive short-term effects for the sending and receiving countries. The long-term effects, especially for the sending countries, are much more difficult to estimate and normally *do not* have a strong impact on the development process, either in a positive or negative way. The '*Internationalist*' position has also maintained that 'brain drain' poses a very trivial problem in developing the underdeveloped regions of the world.

On the whole, the concern of the world should remain focused on how to increase the efficiency of development programs in third world countries and encourage the LDCs to participate in world economic growth through international trade. A few individual human beings do not normally have an impact on the macro-level conditions, but do impact the conditions in both the sending and receiving countries.

Altogether, theories are important for our understanding of the mechanisms and predictions for development and migration. However, there exists a need for careful case-by-case analyses based on country or region specific macro conditions. A general theory linking migration and development cannot be adopted for countries, both in the North and the South. Countries in the South pose particular problems given the lack of homogeneity within the south itself.

⁸³ See Reiner Fischer and Thomas Straubhaar, "Interdependencies between Development and Migration," in *International Migration, Immobility, and Development: Multidisciplinary Perspectives*, eds. Tomas Hammar, Grete Brochmann, Kristof Tamas, and Thomas Faist (New York: Oxford International Publishers Ltd., 1997).

BRAIN GAIN AND SOFT POWER: SOME GAPS IN THE LITERATURE

The last theme in this chapter discusses migrant or diaspora networks as an important contribution in bridging the gap between international migrations and international relations theories. Within this context, it is argued that the migration of the highly skilled can be effectively utilized as soft power for their countries of origin, redefining notions of asymmetrical interdependence between two countries. Insofar as current theories are concerned, in all of the discussion on brain drain, brain gain and future trends of migration flows (either capital or people) the core of the interest in the migration of the highly skilled remains '*economic*'. Most of the writings on migration and international relations utilize the concept of an interdependent, global social system to explain the linkage between them. In the influential view of Wallerstein,⁸⁴ this transnational pattern of social interaction arises with the dynamism of market capitalism and produces very marked asymmetries of power between states in the economic 'core', 'semi-periphery' and 'periphery' of the world economy. Moving beyond dependency theory that posits the importance of brain drain taking place from the South to the North in economic terms, current theories do not explain in detail the political implications of contemporary South to North migrations. This is a serious gap in the literature that links international migration and international relations.

In political terms, migration studies strictly focus on subjects such as: (a) notion of nation-state; (b) migration and control in the welfare state; (c) forced migration and refugee movements; and (d) legitimacy and citizenship concerns. However, very similar to the questions raised by economists concerning the relationship between migration and economic development is the problem of migration and political change. With increasing

⁸⁴ See Immanuel Wallerstein.

migration of highly skilled people, both sending and receiving countries realize the importance of Diaspora communities in their bilateral dealings, serving varied roles as stakes or instruments in state-to-state interaction. For instance, large Diaspora groups settled in the West can use their position to lobby, both directly and indirectly, issues of concern for their countries of origin. Usually this includes both economic and political concerns.⁸⁵ Consequently, migration, in such situations loses its traditional image as a sector of 'low politics' and may alter or even advance to other priorities in international relations. Migration thus changes nature of power between two countries and becomes multidimensional, changing from actor to actor in specific issue areas. Diaspora communities of highly skilled people can be regarded as elements of soft power for the sending country.

Soft Power

International relations theories define power as the ability to do things and control others, to get others to do what they otherwise would not. "Traditionally, the test of a great power was 'strength for war.'⁸⁶ War was the ultimate game in which the cards of international politics were played and estimates of relative power were proven. Over the centuries, as technologies evolved, sources of power have shifted. The origin of the term

⁸⁵ At extreme levels, Diaspora groups have used their position to carry out agitation, propaganda, and other legal and illegal services on behalf of their separatist movements. For example, Sikhs, Tamils, and Muslims from Pakistani administered Kashmir are settled in sizeable numbers in Britain. These Diaspora groups have been noted to render help to their co-ethnics in South Asia, who have been engaged in protracted armed struggles against the states in the region in a bid to carve out their own separate states. Another powerful Diaspora force in Europe is the large Kurdish population. The Kurds have been lobbying governments and human rights groups for support for their right of self-determination.

⁸⁶ Joseph S. Nye, *Power in the Global Information Age: from Realism to Globalization* (London and New York: Routledge, 2004) 69.

soft power can be traced to the American academician Joseph Nye Jr., where he coined the term in his books, (*Bound to Lead*, 1990) and (*The Paradox of American Power*, 2002). Here he developed the idea of this “third dimension” of power (after military and economic power). He defines soft power as “the ability to establish preferences that tends to be associated with intangible power resources such as attractive culture, ideology and institutions. He specifies that soft power is not merely the same as influence, though it is one source of influence.”⁸⁷ It is further seen as the influence and attractiveness a nation acquires when others are drawn to its culture and ideas through knowledge-based diplomacy, scientific and other non-military skills. Nye, who developed the concept, argues that soft power enables a nation to achieve desired outcomes in international affairs through attraction rather than coercion.

Until recently, soft power had largely been an American weapon. Washington had learned to wield its soft power as intelligently as its hard, or military and financial, might. In his recent book, (*the Paradox of American Power 2002*), Nye has taken the analysis of soft power beyond the United States suggesting that other countries could also acquire it. According to him, three types of countries in today’s information age are likely to gain soft power and succeed. These are: “(a) those whose dominant cultures and ideals are closer to prevailing global norms (which now emphasize liberalism, pluralism, and autonomy); (b) those with the most access to multiple channels of communication and thus more influential over issues; (c) and those whose credibility is enhanced by their domestic and international performance.”⁸⁸

⁸⁷ Joseph S. Nye, *The Paradox of American power: Why the World’s only Superpower Can’t go it Alone* (Oxford: Oxford University Press, 2002) 9.

⁸⁸ *Ibid.*, 69.

In recent times, in the third point mentioned above, soft power has been translated to large diasporic communities holding key economic and political positions in their countries of residence. For countries such as India, Nye argues “in terms of soft power, India has an established democracy, an effective leadership of non-aligned countries during the cold war, *an influential diaspora*, and the largest motion picture industry, competing with Hollywood in Asia and the Middle East.”⁸⁹ The massive Chinese and Indian expatriate communities of highly skilled in the United States – 2.4 million and 1.7 million respectively – play a critical role in promoting the political interests and culture of their home countries through their powerful lobbies in Washington. “The Indian community, which is now America’s richest ethnic minority, has become particularly effective in influencing US policy toward South Asia.”⁹⁰ Although not as significant or dramatic, the repercussions of countries such as India and China exploding into the American cultural imagination could be as significant as the explosions that blasted them into the nuclear club. Though neither India nor China can really challenge the United States, their rapid attainment of strong positions in both areas is leading the US to shore up its own position in both fields.

International Migration and Asymmetrical Interdependence (AI)

The twenty first century brings forth different faces of power, where the “proof of power would lie not in resources, but in the ability to change the behavior of states.”⁹¹

⁸⁹ Ibid., 28.

⁹⁰ See Jehangir Pocha, “The Rising Soft Power of India and China,” *New Perspectives Quarterly* 20 number 1 (winter 2003): 1-30.

⁹¹ See Joseph S. Nye, 2004.

Thus a critical question for sending countries with out-migration of highly skilled people is not whether brain drain is a benefit or cost, but to what extent will it be able to use the presence of its diaspora in host societies for political and economic benefits. What this dissertation is looking at specifically is the concept of dependence and power symmetry in an asymmetrical interdependent (AI) relationship. As can be observed, bilateral relationships have become very important, changing the dynamics of the 'asymmetries' in an interdependent relationship. More often than not, (AI) has been in favor of the developed country as the more dominating partner in an interdependent relation. Rather than looking at the relationship in simplistic terms where one is powerful and the other more vulnerable, it becomes important to understand this relationship from a viewpoint where asymmetries or dependence *could be a variable and not a constant*. Since "power is passing from the 'capital-rich' to the 'information-rich'"⁹², countries having a high technological capacity will have a greater role to play in international politics.

Here, it becomes imperative to look at international migration as one factor that may be responsible for adding on to the current theories on (AI). On power distributions and complex interdependence (Keohane, 1983), the author believes that interdependent relations may be asymmetrical in benefits and may include the sharing of vulnerabilities. but is doubtful that any interstate behavior patterns dealing with migration would reach the level of 'international regimes' (Krasner, 1983). However, he does concede that the existence and refinement of such models of international action may provide ideal types in relation to which migration practices may be evaluated.

⁹² Ibid., 73.

Therefore, this research is a departure from previous works in the sense that it is not an evaluation of power distribution within the international arena but attempts to identify international migration as changing aspects of (AI) between two countries.

Although Joseph Nye remains pessimistic regarding the importance of transnational communications between countries, he does place special attention on international bargaining linkages, and the creation of transnational alliances. As an interesting example he cites:

“It is unrealistic to imagine a small group of MIT-trained sons and daughters of Indian, Japanese, and American middle-class parents threatening to detonate a crude plutonium bomb in Boston unless American aid to Asia is immediately increased.”⁹³

However, the relevance of policy decisions in future, being more domestic than foreign, would depend to a large extent, on flow of goods or people and the leverage they can exert on bureaucrats and congressmen in the host countries. Here, diaspora networks play an important role in pushing forward their issues and those of their home countries on the Congressional agenda. Too often, foreign policy is seen as formulated by the executive branch of the government. However, Congress, private sector institutions, and lobby groups are fairly effective in developing the consensus needed for an effective foreign and economic policy. Nye identifies two main roles that the Congress plays in these interdependent issues. First, congressional activity helps to legitimize the hard-offs involved in many of these issues, and second, congressional hearings provide for structured public involvement. Usually this involves the participation of a broad range of groups including scientists, professionals and special interest organizations such as diaspora communities.

⁹³ Ibid., 158-159.

Consequently, it has to be pointed out that while it is true that foreigners (either skilled or unskilled) don't have voting rights in the country of admission on many interdependent issues, they do have capabilities to respond to legislation that sometimes even legitimate voters do not have. Thus emphasis on the uses of migration as a policy instrument may be extended to two broader questions. Why do certain kinds of states choose to promote migration? And what can be said of the long-term consequences, for the regimes and persons involved, of using migration as a policy tool?

Insofar the information revolution is concerned the current literature on soft power primarily assigns importance to American capabilities. The importance of computer networks and communication technologies (through internet, and emails) is primarily seen in the backdrop of shaping American foreign policy. Although the spread of information will reassign power symmetries in the world, it does not, as yet discuss the role played by migrant communities in their presence and use of information technology (IT) industry. The power of migrants as highly skilled diaspora communities in host societies and their influence on the foreign and domestic policy of their countries of residence is an interesting subject in the academic jargon on soft power and asymmetrical interdependence. Although suffering from policy coordination and coalition building at this stage, their role in the global information age will be critical for foreign policy formulation in future.

CONCLUSION

Brain drain, a much-debated issue in the study of migration of the highly skilled people is a continuing phenomenon today. It has been difficult to evaluate from the

standpoints of either sending or receiving countries its causes and effects as its context can be quite diverse for different countries.

Brain gain strategies such as remittances, return, and Diaspora networks are hard to define, difficult to measure, multifaceted, multiform, and resistant to theory building. However, migrant remittances and savings do represent one of the most direct and measurable benefits of international migration in migrant-sending areas and tend to be the best measured and recorded aspect of the migration experience. The return of certain professionals does have some benefits for the home country with investments, usually in businesses, health, and education sectors stimulating economic growth and acting as counter dependent on foreign capital. And diaspora networks are often able to leverage a network to raise funds, get mentorship, access distribution channels, promote the image of their country through their successes, and spawn more enterprise.

Technically, it has been difficult to evaluate the costs and benefits of brain drain for sending and receiving countries. First, the criteria used by sending and receiving countries have been different. Second, benefits for the individual have not necessarily implied benefits for the nation, and vice versa. And third, costs and benefits have differed over the short and long term. These kinds of issues have made the costs and benefits of international migration extremely difficult to evaluate. A fundamental problem is adequate employment opportunities for skilled and professional workers in the country of origin. Without these, abilities and education are not utilized, whether or not workers leave the country.

Current knowledge regarding the interrelations between international migration and development is incomplete and various schools of thought have yet to define clearly their current position vis-à-vis brain drain.

The last theme in this chapter discusses migrant or diaspora networks as an important contribution in bridging the gap between international migrations and international relations theories. The use of large Diaspora groups settled in the West to effectively use their position for lobbying, both directly and indirectly and raising issues of concern for their countries of origin highlights the importance of migration and people as soft power elements.

In the course of the second half of the twentieth century, and especially in the last quarter, our understanding of the complexities associated with brain drain has made considerable success. However, this deepened understanding has resulted more from empirical research, often divorced from theory, than from conceptual theorizing itself. Although it is true that the reservoir of theories represents a clear improvement over the debates that ensued a couple of decades ago, it still remains limited and beset with difficulties that usually accompany social science research.

The central theme, to reiterate, is that if the brightest and the most talented are leaving their home countries, then, what approaches have been identified in policy circles to offset the costs associated with the departure of the highly skilled or human capital?

CHAPTER III

INDO-US RELATIONS: POLITICAL, ECONOMIC AND MIGRATION LINKAGES

“Nations have no permanent friends and no permanent enemies, only permanent national interests.” (Lord Palmerston for 19th-century Britain coined the dictum).

INTRODUCTION

The choice of India and the United States as countries in the case study for the brain drain phenomenon not only seems pertinent but also very interesting given their diverse backgrounds. Initially, the two countries emerged with vastly different goals and strategies. The United States emerged as the global leader of the twentieth century in various affairs, both ideological¹ and military, especially after the Second World War in 1945. India's political and economic history after independence in 1947 was turbulent and chaotic to say the least, facing internal challenges of post-colonialism, poverty, backwardness, growth, and diversity. After the Second World War both countries inherited their share of prejudices and viewed each other with suspicion. India saw the United States as obsessed with anti-communism and the United States viewed India as firmly placed in the socialist camp with Nehru² showing obvious affinities for the Soviet Union, in particular, for socialism. Despite Washington's unsympathetic views on India's economic policies and in particular the debt crisis in the 1980s, the United States managed to maintain a relationship of sorts with India, providing economic assistance in times of need.

¹ The U.S. was engaged in its ideological fight against Communism around the world

² Independent India's first Prime Minister

The end of the Cold War and globalization coupled with India's economic reforms and liberalization has led to one of the most "strategic partnerships"³, that of India and the United States. Although they had vastly different goals, doctrines, agendas, and ideologies, both countries remain firm advocates of democracy and the free market economy. The United States is currently India's largest trading partner and India is one of the largest investment sites for United States based multinational corporations.

An era of increased economic interdependence and greater foreign trade coupled with the revolution in *information technology (IT) and communications* has further spurred on the movement of people across borders and continents. A different kind of relationship between the two countries has thus emerged with the movement of people from India to the United States increasing four fold in the 1990s. The strength of the Indian Diaspora in the United States, close to two million people, boasts of their various achievements, making them important agents of power in both home and host countries. It thus becomes important to identify important political and economic events central to both countries to gain a better perspective on the migration linkage.

It is against this historical backdrop that the current research looks towards India as the sending and the United States as the receiving country to fully understand the brain drain phenomenon. This chapter will essentially look at the Indo-US relation from two perspectives. The first part traces the political and economic relationship between the two countries (during and after the cold war). The second examines the level and scope of migration between them.

³ The use of the term 'strategic partnership' has been taken from the Indian embassy website that has explored the India-US relations in general, economic, defense, energy, science & technology, and in people to people relations.

COLD WAR CALCULATION: POLITICAL & ECONOMIC

After India gained her independence in 1947, the division of British India was complete with the creation of the independent country of Pakistan. Almost immediately, Cold War settings heavily influenced United States foreign policy in the region towards them. Independent India, under Prime Minister Nehru (who was the primary architect of India's foreign policy in the early years), was determined to keep away from the Cold War. Thus, Nehru chose a middle path, which subsequently came to be known as non-alignment, and became the leader of the non-aligned movement (NAM).⁴ India under Nehru pursued a globally oriented foreign policy while trying to maintain a careful distance between the power blocs of the East and West. Its stand on disarmament, anti-colonialism, and world peace won for India the respect of the newly independent countries of Asia and Africa.

However, India's policy of non-alignment, suffering from two inherent weaknesses, brought back superpower diplomacy to South Asia. First, India lacked military and economic power, and second, Nehru ignored the need to evolve a concept of regional security.⁵ These weaknesses were inherent in spite of having acquired a high profile politically. For all these matters, success was dependent on the requirements (of the great powers) and of the support and goodwill of the newly emerging nations that India claimed to have influence over.

⁴ Nonalignment was institutionalized at a conference in Belgrade in 1961, the cofounders being India, Yugoslavia and Egypt. The concept also grew out of India's backwardness, poverty and lack of military muscle

⁵ Explained in Devin T. Hagerty, "India's Regional Security Doctrine," *Asian Survey* 31 number 4 (April 1991): 351-363. India did not have a well defined regional security policy in the 1980s that continued into the 1990s.

United States' interest in the Asian continent spurred with the rise of Communist China in 1949. And with the Korean War in 1950-51, American policymakers, realizing the possibility of Communist expansion into Asia, made it a cornerstone of their foreign policy agenda. Consequently, South Asia too became a priority area for the United States in the need to contain communism.⁶ Besides containment, the Cold War also saw a number of American efforts in trying to resolve the Kashmir issue between India and Pakistan. The Truman, Eisenhower, and Kennedy administrations each attempted to resolve the Kashmir issue. However, "all of these American efforts at resolving the conflict sprang from the calculation that a strategically divided South Asia would be vulnerable to Communist power."⁷

The United States was initially sympathetic towards India and paid relatively little attention to Pakistan, but this situation soon reversed. During the 1950's, United States foreign policy towards India and Pakistan was shaped by United States' failure, most demonstrably over Korea, to enlist India's support in the fight against communism and reverse Nehru's commitment to a policy of non-alignment. This, more than anything else, alienated the United States from India and brought her closer to Pakistan. Nehru, a champion of socialism looked upon capitalism as the parent of imperialism and fascism

⁶ South Asia, one of the most populous and poverty stricken regions of the world (after the African continent), relatively neglected in US foreign policy because the region lacks great strategic significance when viewed from military oriented, super or major power perspective.

⁷ Stephen Philip Cohen, *India: Emerging Power* (Washington D.C.: Brookings Institution Press, 2001), 276.

and “America viewed socialism as the road to communism.”⁸ These ideological differences contributed towards alliance patterns in the region.⁹

At the same time, United States’ greatest rival, the Soviets, were firmly on India’s side and extended vital military and other aid to it. With the Soviet Union moving towards India under a joint venture of socialism and China moving towards Pakistan with friendly overtures it was essential for the United States to move in and establish an ally or satellite country within the region. Thus, United States militarily moved towards Pakistan making it a favorite in the region.¹⁰ It became the main recipient of United States economic aid per capita, and also its partner in organizations such as the Central Treaty Organization (CENTO), and the South East Asia Treaty Organization (SEATO), which entailed substantial military aid as well. The most visible military tilt appeared in the form of the ‘Mutual Defense Assistance Agreement’ in May 1954 between United States and Pakistan. On its part, the Soviet Union became extremely supportive of India, and defended her position on Kashmir by vetoing any resolutions in the UN Security Council against Pakistan.¹¹

Other non-Cold War issues, such as India’s economic policies, also hardened American differences with India. A case in point being the application of economic

⁸ Victoria Schofield, *Kashmir in the Crossfire* (London, New York: I.B. Tauris Publishers, 1996), 177.

⁹ See Raju G. C. Thomas, “Security Relationships in Southern Asia: Differences in the Indian and American Perspectives,” *Asian Survey* 21 number 7 (July 1981): 689-709. The author identifies three main reasons for the general lack of cordiality between India and the United States, 1) clashing personalities of national leaders, 2) negative images formed on either side, and 3) strategic reasons.

¹⁰ For a better analysis see George J. Lerski, “The Pakistan-American Alliance: A Reevaluation of the Past Decade,” *Asian Survey* 8 number 5 (May 1968): 400-415.

¹¹ Documented in Harish Kapur, “The Soviet Union and Indo-Pakistani Relations,” *International Studies* 8 (July 1966–April 1967): 150-157.

pressures on India's agricultural policy by the Johnson administration in 1965. This resulted in the suspension of long-term PL-480 food assistance to India at a time when India was experiencing a severe famine. The policy elicited deep anger among Indian leaders and severely damaged Indo-US relations.

The rift with United States was almost complete in the 1970s with India testing its nuclear weapons in 1974, and refusing to sign the 'Nuclear Non Proliferation Treaty' (NPT).¹² As a result, the restrictions of the Zangger Committee and Nuclear Suppliers Group reduced and eventually halted the transfer of nuclear-related technology to India and other states of proliferation concerns. In addition, the Soviet Union continued its unlimited supply and access to arms to India, in her involvement in the conflict between East and West Pakistan and the creation of Bangladesh in 1971.

In spite of the seemingly unbridgeable policy differences between the United States and India, the two countries patched up their relations when Jimmy Carter introduced the carrot in the American diplomatic repertoire when he and the World Bank offered massive assistance for an Eastern waters regional development program.

The liberal school of thought in the United States remained in favor of supporting a democratic India,¹³ with the wide-held belief that India was vital to the preservation of all non-communist countries in Asia. "It was generally believed that if India should succumb to Communism, then all Asia would be eventually lost."¹⁴

¹² See Robert G Wirsing, "The Arms Race in South Asia: Implications for the United States," *Asian Survey* 25 number 3 (March 1985): 265-291.

¹³ US Secretary of States, Dulles, had been engaged in building a chain of military pacts around the World to 'contain' Soviet Expansionism and it had been in this context that Pakistan had been viewed as a strategically important country.

¹⁴ Louis D. Hayes, *The Impact of U.S. Policy on the Kashmir Conflict* (Arizona: The University of Arizona Press, 1971), 49.

Table 2. Relationship with India During Cold War: US, USSR, and China.

Country	1950s	1960s	1970s
US	UNFRIENDLY (US had a Mutual Defense pact with Pakistan in 1954, CENTO, SEATO)	NEUTRAL 1965 Indo-Pakistani War, Kashmir stood in the way of U.S. foreign policy Late 1960s – FRIENDLY Military aid to Pakistan stopped	FRIENDLY CENTO, SEATO virtually dead, VERY UNFRIENDLY TILL END OF COLD WAR India leaning militarily towards USSR, and Pakistan in US camp after Soviet invasion of Afghanistan
USSR	FRIENDLY Beginning of Five year Plans, Nehru's tilt towards USSR.	FRIENDLY United States U2 spy plane in Peshawar, good relations with India (enemy's enemy is my friend)	FRIENDLY Unlimited supply of Soviet arms to India during and after 1971 war between India and Pakistan
CHINA	UNFRIENDLY Continued border clashes with India	UNFRIENDLY 1962 Indo-Chinese war	UNFRIENDLY Friendly relations with Pakistan

Indo-US Relations in the 1980s

For the United States, the decade of 1980 began with the combined effects of a major oil crisis, the collapse of its Iranian ally, and the Soviet occupation of Afghanistan. By the early 1980s these events shook up the United States and resulted in a much bigger stake in South Asia. This decade was considered as a sandwich decade with respect to Indo-U.S. relations since India was hardly a pawn in the Cold War game and yet not totally oblivious to it. India seemed less influenced by the cold war since the Soviet Union itself was deteriorating at all levels¹⁵ and was also experiencing its own domestic problems in the political and economic spheres.

Although in 1980 President Carter approved the temporary waiver of sanctions that limited the supply of uranium, the decade started with economic and political disagreements between the two countries. Initially, both Indira Gandhi (the Prime Minister of India at the time) and after her death in 1984, Rajiv Gandhi, made it abundantly clear that continued US military aid to Pakistan would be detrimental to Indo-US relations. Rajiv Gandhi after 1984, tried to put behind the turbulence of the previous years and put the 'bilateral relationship' on a more practical footing. Most of this involved mutual beliefs in principles of democracy, a free market economy, cooperation in the financial sector and academic links with the West. This linkage was mostly visible through a steady migration of students and professionals with important educational and economic consequences for both countries.

The 1980s also witnessed a gradual acceptance by the United States of India's growing pre-eminence in the region. This was reflected in India's (albeit unsuccessful)

¹⁵ Mikhael Gorbachev's twin policies of Glasnost and Perestroika had proved to be disastrous for the country and helped in the crumbling of the Soviet Union

peacekeeping efforts in Sri Lanka despite India's earlier involvement with the Tamil separatists, and during its intervention in a *coup* attempt in the Maldives. In a letter addressed to Prime Minister Rajiv Gandhi, President Reagan not only extended his 'appreciation' but was also impressed by India's willingness to restore order without unnecessary bloodshed.

Economic and trade relationships also improved between the two countries with cooperation in the fields of defense and technology transfers. President Reagan issued a directive (1984) instructing government agencies to seek improved relations with India and accommodate its requests for dual-use technology. The USAID program in India was also expanded with the aim of science and technology transfers. Scientists from both countries began working side-by-side to "develop sophisticated satellites for monsoon forecasting, communications systems, biomedicine, and renewable sources of energy. The U.S. loan guarantees were also supportive of India's development of private sector financing systems and water and sanitation services."¹⁶ In 1986, the US agreed to supply a number of General Electric F-404 engines and avionics for India's Light Combat Aircraft (LCA) then under development. Later, "the US also agreed to sell a Cray XMP-14 supercomputer, the first such sale to a country outside the western alliance."¹⁷ This was symbolic in the visit of the US Secretary of State Caspar Weinberger in 1987, and then his successor Frank Carlucci in 1988. This was followed by visit to the US by India's Defense Minister, K. C. Pant, in July 1989 as the first visit by an Indian Defense Minister in over twenty-five years.

¹⁶ USAID, *History of USAID to India*. Available [Online]: <<http://www.usaid.gov/in/UsaidInIndia/history.htm>> [3 March 2004].

¹⁷ Mohammed Ayoob, *India and Southeast Asia: Indian Perceptions and Policies* (London: Routledge, 1990), 80.

Despite these encouraging overtures throughout the 1980s, the governments of both India and the United States continued to disagree over India's need for balance of payments financing and multilateral aid. These disagreements were visible in global organizations such as: the International Monetary Fund, (IMF); the World Bank and its concessional lending affiliate, the International Development Association (IDA); and the Asian Development Bank (ADB).¹⁸ The Reagan administration, in particular, took a number of actions that adversely affected India's economic interests. As an illustration, the United States expressed its disapproval over a \$5.6 billion IMF loan to India and also opposed Indian borrowing from the ADB. India also faced embargoes on missile-related technology from 1987 onwards.

Some Cold War Lessons

Indo-US relations remained very patchy during the Cold War.¹⁹ The initial aim of the United States had been to enlist India to contain Soviet and Chinese Communism and "to deny India to the Communist world – the Soviet Union in particular."²⁰ Thus, determinants of United States foreign policy towards India were essentially driven by the need to stem the communist expansion in the region. Nehru's sentimental attachments to

¹⁸ The IMF provides short and medium-term financing to its members to correct payments imbalances. The World Bank provides near-market loans to finance long-term development in developing countries. Its affiliate, the IDA, provides interest free credits to those developing countries that lack the credit standing for World Bank or commercial loans. The Asian Development Bank, founded in 1966, is a smaller institution that makes near-market term loans in Asia and also provides concessional aid through its Asian Development Fund (ADF). Both the IDA and the ADF receive the bulk of their funds from budgetary contributions of member countries. These contributions are made in periodic cycles or replenishments.

¹⁹ See Vera Micheles Dean, "The United States and India," *Far Eastern Survey* 21 number 5 (April 1952): 41-46. The author talks about the different ideologies of both countries and suggests a starting point for improving the misunderstandings between them.

²⁰ Nihal S. Singh, "Can the US and India Be Real Friends?" *Asian Survey* 23 number 9 (September 1983): 1011-1024.

the British Commonwealth, nonalignment, and socialism in the Soviet Union had already cast its shadow on the Indo-US relationship. Calculations of foreign policy were made in terms of Cold-War assumptions, whoever is not with us is against us (the Indian view of the Eisenhower-Dulles position), or whoever is not against us is at least potentially with us (the Indian view of the Kennedy position). From the point of view of American foreign policy, military assistance to Pakistan was necessary to check the communist aggression there. By making Pakistan a geo-strategic ally in the region, Indo-US relations were seriously hampered and further pushed India in the Soviet camp. Kashmir became one of the unintended victims of the Cold War calculations²¹ further festering the sore in the relationship.

India's foreign policy objectives were remarkably consistent during the Cold War, despite the adjustments it had to make over the years. Nonalignment served the purpose that India's leaders were looking for, a role for India that had not meant being any country's follower. Irrespective of the Soviet angle, there had always remained a measure of goodwill between the two countries. Ideologically, the Indian elite had been more in tune with American thinking. Besides, the very concept of nonalignment meant that India should be friends with both the Soviet Union and the United States. In addition to ideology, India had also been attached to the United States for economic reasons and the US remained a primary source of economic assistance²² and technology transfers to a poverty-stricken and backward India. This was also the time when migration between the

²¹ See Sumit Ganguly and Kanti Bajpai, "India and the Crisis in Kashmir," *Asian Survey* 34 number 5 (May, 1994): 401-416.

²² See Nihal S. Singh. Between 1956 and 1975, India received more than \$10 billion of US assistance of various types

two countries was becoming visible especially after the 1965 immigration laws were relaxed in the United States. This, and other economic linkages proved to be a tying factor for the two countries in the long run.

Thus, in spite of the highly charged political atmosphere the two countries shared politically during the Cold War, it seemed plausible and likely that economic, and information technology (IT) would be the two areas that would define the future of the Indo-US relations in the long term.

POST COLD WAR AND CHANGING RELATIONS

U.S. foreign policy towards India improved considerably at the end of the Cold War with the collapse of the Soviet Union accompanied by India's economic reforms. However, this gradual process of the warming up of bilateral relations came to an abrupt halt after India's nuclear tests in May 1998 (followed by Pakistan), resulting in the imposition of wide-ranging sanctions. A number of non-governmental and think-tank reports²³ produced in the 1990's highlight Clinton Administrations' single-issue approach to the region. Eventually, they helped in improving American understanding of Indian political and strategic compulsions asking for more balanced approaches to the region.

Although nuclear issues remain at the center of U.S. policy toward New Delhi, America increasingly realized India's economic and strategic potential both within the region and outside. This proved to be the defining relationship between them for the next two decades.

²³ These studies are sponsored by the Asia Society, the Brookings Institution, the Carnegie Endowment for International Peace, and the Council on Foreign Relations

Indo-US Economic Ties

The Indian economy, considered to be one of the largest consumer markets for the 'Asian Tiger Economies', was finally awakened from its sleep with the liberalization reforms in 1991 undertaken by the Indian Government under the leadership of Prime Minister P.V. Narasimha Rao and Finance Minister Manmohan Singh.²⁴

One outcome of liberalization was the increase in the number of official trips between India and the United States during the mid 1990s. Indian Prime Minister P.V. Narasimha Rao's week-long visit to the United States in May 1994, was followed by a ten-day visit to India by a U.S. Presidential Business Development Mission led by Secretary of Commerce, Ron Brown in 1995. These visits were designed to "initiate a process of intensified identification and opportunity in key sectors"²⁵ and to lay the foundation for a new Indo-US relationship that would immediately and importantly benefit both countries. All these events marked a dramatic reversal of uneven and unclear relations that had existed between the two countries for over four decades.

Although India had liberalized in the 1990s, it did not have enough resources needed for investment in physical infrastructure, health and education. The United States government through USAID decided to bring into India new investors to capital markets, help state governments forecast and analyze fiscal decisions, generate financing for urban development, and advance agricultural technologies. The partnership between India and the United States involved them to work efficiently with public funds and leverage development investments. In the long-term, USAID envisioned India's civil society

²⁴ Manmohan Singh became the Prime Minister of the country in 2004

²⁵ Ramesh Thakur, "India and the United States: A Triumph of Hope over Experience," *Asian Survey* 36 number 6 (June 1996): 574.

working hand-in-hand with American “private partners”²⁶ to solve development problems, without the need for U.S. economic assistance.

The global market economy was among the most prominent issues that formed a basis for cooperation between them. The debt crisis of the late 1980s and the ills of a mixed economy proved to be devastating for India. Liberalization and privatization seemed the logical way out where the Western nations and the major financial institutions dominated by the United States could provide India with the necessary amounts of aid, credits, and investment. In fact, India needed the US money, business, and the technology to maintain its economic momentum. The United States (especially during the Clinton era) also ended up as India’s most important trading partner in both imports and exports, and its largest foreign investor. In turn, Washington also identified India as one of the top ten emerging markets in the world.²⁷

Thus, economic reforms introduced in 1991 radically changed the course of the Indian economy and led to its gradual integration within the global economy. Benefits of the reform process were visible in the form of better growth rates, higher investment, and trade flows. The effects of these reforms on trade and investment relations with the United States were profound and the government of India identified the United States as not only its largest investor country in India, but also its largest trading partner. By 2003, India was identified as 24th largest export destination for the United States. In terms of exports to the U.S., India ranked as the 18th largest country.

²⁶ USAID, *History of USAID in India*. Available [Online]:<<http://www.usaid.gov/in/UsaidInIndia/overview.htm>>[3 March, 2004].

²⁷ According to a report issued by the OECD on May 23, 1995, the Asian developing countries would account for almost a third of the global demand by 2010. China, India and Indonesia would be the three big emerging markets whose growth would have a profound impact on the world economy.

Foreign Direct Investment (FDI)

United States is one of the largest foreign direct investors in India. The stock of actual FDI Inflow increased from previous decades from U.S. \$11.3 million in 1991 to US \$4132.8 million as of August 2004, recording an increase at a compound rate of 57.5 percent per annum (Table 3). The FDI inflows from the U.S. constitute about 11 percent of the total actual FDI inflows into India. Although there is a gap between the approved and the actual inflow (see Table 4 and figure 7), the ratio of cumulative US FDI inflow to approval has accelerated in the recent years indicating that FDI approved in the past years have started to materialize. The Indian government has also identified the top sectors of the economy that have been attracting FDI from USA. These are:

Sector-wise Break-up of US FDI in India

- Fuels (Power & Oil Refineries): 35.93%
- Telecommunications (radio paging, cellular mobile & basic telephone services): 10.56%
- Electrical Equipment (including Computer Software & Electronics): 9.50%
- Food Processing Industries (Food products & marine products): 9.43%
- Service Sector (Financial and Non-Financial): 8.28%²⁸

Portfolio Investment

The U.S. is also the leading investor in India in Portfolio Investments. Out of the 538 Foreign Institutional Investors (FIIs) currently registered with SEBI, 234 are from

²⁸ All data is compiled from statistics available from the Indian Embassy website. Embassy of India, *India-US Relations*. Available [Online]: <<http://www.indianembassy.org/Economy/economy.htm>> [15 October, 2005].

Table 3. Share of US FDI in Total – Actual Inflow to India

Years	Total FDI (\$ Mln)	US FDI (\$ Mln)	US Share (%)
1991	143.6	11.3	7.87
1992	258.0	43.9	17.02
1993	582.9	147.7	25.34
1994	1048.5	118.9	11.34
1995	2172.0	215.6	9.93
1996	3021.0	271.0	8.97
1997	4579.1	736.6	16.09
1998	3377.2	347.1	10.28
1999	4016.1	431.2	10.74
2000	4498.1	418.4	9.30
2001	4281.1	367.6	8.59
2002	4434.5	282.8	6.38
2003	3109.0	396.3	12.75
*2004	3468.0	344.4	9.93
Total	38989.1	4132.8	10.60

Source: Data Compiled from SIA Newsletter, Department of Industrial Policy & Promotion, Government of India. *Up to August 2004.

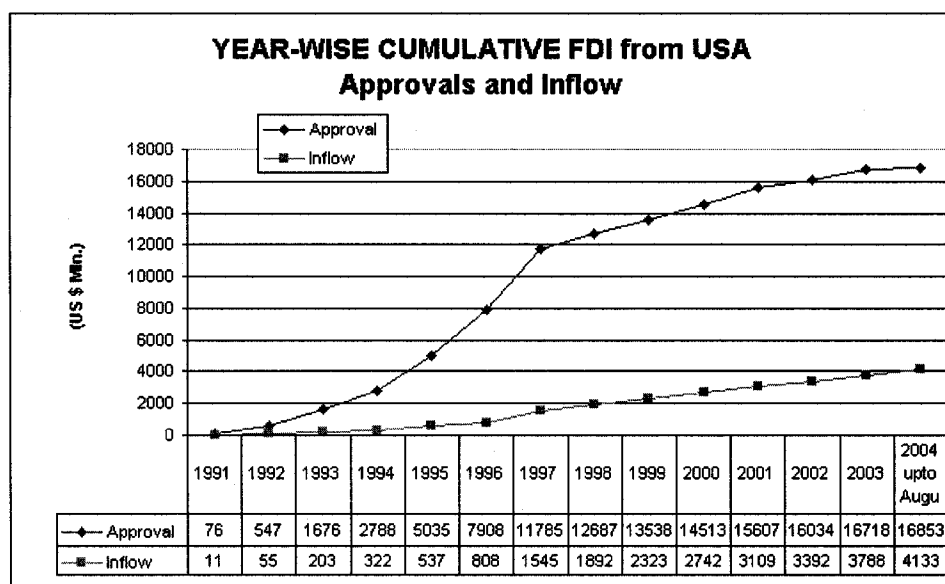


Figure 7. Year-wise Cumulative FDI from USA: Approvals and Inflows to India

Source: www.indianembassy.org

Table 4. India: Cumulative FDI

Year	FDI Approved to USA	Actual Inflow of FDI from USA	Share of Inflow to Approval
1991	76	11	14.87
1992	547	55	10.10
1993	1676	203	12.11
1994	2788	322	11.54
1995	5035	537	10.67
1996	7908	808	10.22
1997	11785	1545	13.11
1998	12687	1892	14.91
1999	13538	2323	17.16
2000	14513	2742	18.89
2001	15607	3109	19.92
2002	16034	3392	21.16
2003	16718	3788	22.66
upto August, 2004	16853	4133	24.52

Source: Securities and Exchange Board of India, Available[Online]:<<http://www.sebi.gov.in>>[30 April 2006].

Table 5. Year-Wise Foreign Institutional Investments

Years	Total FII (\$ Mln)	FII from USA (\$ Mln)	US Share (%)
1993-94	1634	781	47.80
1994-95	1528	894	58.51
1995-96	2036	856	42.04
1996-97	2424	1019	42.04
1997-98	1463	1005	68.69
1998-99	-176	-9	5.11
1999-00	2235	841	37.63
2000-01	2222	1174	52.84
2001-02	1702	533	31.32
2002-03	525	174	33.14
2003-04	8630	2863	33.17
2004-05*	1068	109	10.21
Total	25291	10240	40.49

* upto June 30, 2004

Source: Securities and Exchange Board of India, Available[Online]:<<http://www.sebi.gov.in>>[30 April 2006].

the United States and an additional 169 U.S. based sub-accounts currently registered. As of June 30, 2004, an investment of nearly \$ 10.2 billion out of a total of \$25.3 billion by foreign institutional investments (FIIs) in the Indian capital markets has come from the United States accounting for about 40.5 percent of the net investments made by the FIIs since 1993 (see Table 5).

“On its part India has a population of more than one billion, including a large middle class with spending power, and is therefore a major market in itself.”²⁹ U.S. companies in India are involved in every sector that has been open to private investment, and a large number of the Leading Fortune 500 companies have invested in India. From infrastructure to consumer goods, and from information technology to consultancy services, American companies are now being increasingly represented in India as never before. During President Clinton’s visit to India in March 2000, a Memoranda of Understanding (MoU) worth about \$3.5 billion was signed by, among others, Motorola, Hughes Network Systems, Bank of America, IBM, Enron and Ogden Energy.

Indian Investments in the United States

Economic ties have also strengthened with India increasing its direct investment in the United States. From 1996 up to September 2004, the total approved Indian investment abroad amounted to US \$ 11083.11 million which 60.9% was the actual outflow. The U.S. share (\$ 2080.367 million) constitutes 18.8% of the total approvals. Since 1996, USA has attracted the highest Indian direct investments (US\$ 2080.37

²⁹ Om Malik, “The New Land of Opportunity,” *Business Week*, 2 July 2004. The article has estimated that India’s Middle class is estimated to spend \$420 billion in the next three years beginning 2004.

Table 6. Country Wise Approved Indian Direct Investments

S.No	Name of the country	1996 to 2000	2000-01	2001-02	2002-03	2003-04	2004-05 (April 04- Sept. 04)	Total
1	Australia	2.61	2.47	1.91	94.97	92.87	123.72	318.56
2	British Virgin Island	752.08	18.01	6.44	3.27	4.92	6.43	791.15
3	Bermuda	156.90	0.70	75.03	28.95	142.46	6.24	410.28
4	Hongkong	391.41	37.64	16.07	14.80	16.15	53.08	529.16
5	Mauritius	221.64	242.25	154.45	133.35	175.59	21.58	948.86
6	Russia	3.27	3.50	1741.91	0.15	1.43	1.13	1751.39
7	Singapore	88.52	39.41	25.03	46.79	15.85	22.95	238.56
8	Sudan	--	--	--	750.00	162.03		912.03
9	USA	378.53	734.24	428.06	185.27	207.14	147.12	2080.37
10	Vietnam	0.44	0.15	228.20	0.06	0.04	0.05	228.94

million) followed by Russia (US\$ 1751.4 million), Mauritius (US\$ 948.87 million), and Sudan (US\$ 912 million). India's outgoing investments was largest in the field of manufacturing (54.8%) followed by non-financial services including software development (35.4%). Table 6 above provides a country-wise break up of overseas investments approved in the last seven years for the top ten countries.

Both India and United States have identified some key areas where they can have increased economic cooperation. These include IT, the Telecom sector, energy and other knowledge industries such as pharmaceuticals and biotechnology. The U.S. investor community has been increasingly sharing confidence in the future of the Indian economy. It is predicted that with the growth of the Indian economy, and the implementation of second-generation reforms, Indo-US bilateral ties would strengthen further.

Economic Risks and Gains

With increasing trade between India and the United States, several issues continue to remain in dispute. These include "the American practice of linking human rights issues with economic policies, the question of child labor, the disappearance of Indian brands, and the danger of uneven growth within India."³⁰ However, these are balanced, after a decade of economic reforms in India, with the emergence of India as an economic super power with global advantages in the field of IT.³¹ Azim Premji, owner of Wipro

³⁰ See Stephen Philip Cohen. Cohen accurately describes the economic risks and gains that America has while trading with India.

³¹ The Indian IT outsourcing companies have been successful at competing for application infrastructure projects as well as system and business-process outsourcing with behemoths such as IBM (IBM ; accumulate; \$90), Accenture (ACN ; hold; \$24), Computer Sciences (CSC ; buy; \$50), and Electronic Data Systems (EDS ; hold; \$21), partly by taking advantage of a unique global delivery model. Infosys, Wipro, and Satyam use a low-cost resource base within India on IT outsourcing contracts across the globe. More

and third richest man in the world has plans of making Wipro one of the Top 10 IT-service companies in the world.³² Investors around the world identify countries such as Brazil, Russia, India and China (BRIC) as most beneficial to their businesses.³³ On a positive note, economists at Goldman, Sachs & Co state that if these countries get their fundamentals right: such as sound fiscal and monetary policies; free trade with the outside world; and massive investment in education; then collectively their economies could be larger than the G-6 countries.

With India having graduated out of the aid arena due of its relatively comfortable balance of payments position and large capital inflows through private channels, the country no more requires direct support from the US government's aid budget.

Government-to-government agreements are significant only inasmuch as they promise to facilitate or regulate private sector relationships. From India's point of view, the United States is obviously an important trade partner. It now accounts for 28 % of India's trade and is the main market for the fast growing software and IT-enabled services exports from India. Thus, it is not because the economic relationship between the two countries is insignificant or not expanding that it receives less attention than the political relationship, it is mostly because "a post-liberalisation transformation has introduced an element of asymmetry into the economic relationship between the two countries."³⁴

than 70% of Infosys' revenue comes from North America, while Wipro gets 53% and Satyam gets 73% of sales from the region.

³² Manjeet Kripalani and Bruce Einhorn, "India's Tech King." *Business Week*, 13 October 2003.

³³ Christopher Farrell and Frederik Balfour, "Four Countries You Must Own." *Business Week*, 27 December 2004.

³⁴ C.P. Chandrashekhar, *Indo-US Economic Relations: More Give and Less Take?* (2005). Available [Online]:< http://www.macrosan.com/cur/aug05/cur250805Economic_Relations.htm> [25 August 2005]

MIGRATION FLOWS: INDIA AND THE UNITED STATES

In addition to political and economic, migration linkages between India and the United States increasingly tie them together. India's visible and tangible presence in the United States creates a positive image on American policymakers and is likely to have an enduring impact on the bilateral relationship between them. By the early 1970s the small but influential Indian minority were estimated at having the highest per capita income of any ethnic group in the United States. With the end of the Cold War and advent of globalization the migration of Indians increased four-fold with breakthroughs in information technology and other professions.

Among the various trends that were observed in India after its independence was the regular flow of people to developed countries. Many gave up their country of residence to go and settle abroad for greener pastures. For most of these Indians, the common official route was to leave the country either for work or for family links. The lure of foreign jobs was so high that many resorted to illegal means of achieving their dream of going abroad.

In an emerging global scenario where the immediate future is viewed as the 'age of migration', it is important that attempts be made, especially in a leading labor exporting country like India, to examine the implications of the contemporary migration flows so as to evolve a more purposeful migration policy framework aimed at the maximization and socialization of benefits from migration in the wider context of economic development. Clearly, the fear of brain drain has been receding in many countries, especially India. Again answering the question 'who gains and who loses' becomes very interesting while looking at India as the sending country.

INDIA AS THE SENDING COUNTRY

Recent decades yield several pieces of literature on Indians settled abroad. Various perspectives put forward study some basic facts about Indians settled abroad, their estimated numbers, their regional distribution across nations, and their regional derivations and settlements.³⁵ In particular, theorists have reflected on the significance of Indian immigrant communities in general, and their economic and social impact for their countries of settlement. Indian migration can be explained using many perspectives:³⁶ historical, national, colonial, and Marxist. Most studies identify three distinct phases of Indian migration.

The first wave of emigration, in the historical context, began during the colonial period. In most cases, they were an economically beleaguered labor force seeking their livelihood in distant lands. It has a familiar story of people uprooted from their homeland and taken to far-away places where their historical experiences were as varied as the destinations. These were movements to far away places such as Guyana, Jamaica and Fiji, to not so-distant lands such as Malaysia, Mauritius, and Singapore, to neighboring countries such as Sri Lanka and Burma,³⁷ and other parts of the British dominion.³⁸

³⁵ The Indian Diaspora spans the globe and stretches across all the oceans and continents. Its population is estimated to be about 20 million. There are about 10,000 or more overseas Indians in 48 countries. In 11 of these, there are more than half a million – persons of Indian descent – representing a significant proportion of the population in those countries.

³⁶ See S.L. Sharma, “Perspectives on Indians Abroad,” in *The Indian Diaspora: Dynamics of Migration*, ed. N. Jayaram, 6-32. New Delhi, London: Sage Publications, 2004.

³⁷ Burma or currently Myanmar has the highest number of Indians if we are counting Persons of Indian Origin (PIOs) and Indian citizens totaling even higher than the United States.

³⁸ Migratory flow during the period of colonial domination was very much tied to the investment interests of the colonial rulers and took place under their aegis. For instance a great part of the nineteenth century

The second wave of migrants, in post-colonial times, occurred with the economic boom combined with acute labor shortages in the Gulf region and created a huge and continuing demand since the 1970s for short-term immigrant labor in the countries of the Gulf and West Asia/ North Africa. Estimated at more than 3 million, with more than half from the southern state of Kerala, 70% of the Indian population in the region consists of semi-skilled and unskilled workers, 20-30% as professionals and white-collar workers (doctors, engineers, architects, chartered accountants and bankers), and a small fraction composed of domestic help. Remittances to India from the Gulf have been long recognized as a significant contribution to India's balance of payments, are mostly made by Indian workers in the first category. Following Operation Desert Storm the number of Indians in Iraq has been reduced to a handful. The Indian community in Libya has also declined, mainly due to an economic slowdown, from almost 40,000 in the mid-1980s to about 12,000.³⁹

In recent times, a third wave of emigration is visible with the out-migration of white-collar professionals and students to the developed parts of the capitalist West, particularly, to the United States, Canada, and Britain. This gives rise to the much-debated question of brain drain as some of the most important characteristics of this labor flow include: outflows made up almost entirely of permanent migration and consisting of a large proportion of migrants or persons with professional expertise,

and the early twentieth century witnessed a regular migration of Indian workers as indentured labor for plantations or mines in the British colonies.

³⁹ The High Level Committee on the Indian Diaspora in its study of NRIs in the Gulf region, especially in countries such as Oman, Saudi Arabia, United Arab Emirates and Kuwait make a list of grievances and exploitations of the Indians working there. It has been recommended to the Indian government by the representatives of the overseas Indian laborers that it negotiate with all Gulf countries a 'Standard Labor Export Agreement' prescribing such things as a minimum wage, free housing, medical care, limits on daily working hours, overtime allowance rates and compensation for on-the-job death or injury etc.

technical qualifications or other skills. Table 7 illustrates the estimated size of overseas Indian community as of 2004.

The available evidence on trends in migration from India to the selected industrialized countries - the United States, Canada and the United Kingdom - during the period 1951 - 1990 is presented in Table 8. Although we are primarily concerned with migration to the United States, comparisons with other developed countries provide better analysis with respect to migration flows and brain drain.

Emigration to North America began in the early 1950s but the numbers remained modest until the middle of 1960s. This emigration gathered momentum thereafter. The number of emigrants from India to both United States and Canada steadily increased during 1970s and 1980s. In contrast, emigration to the United Kingdom was at its peak during the 1960s but slowed down thereafter in the 1970s and stabilized at significantly lower level in the 1980s.

Notwithstanding these trends, it is important to recognize some limitations of the database. First, the figures do not quite reflect actual emigration flows in each year, at least in the United States and United Kingdom, because the data includes not only immigrants expected on arrival in that year but also those granted immigrant status during that year after their statutory period of residence. Second, the evidence of migration from India to the United Kingdom is incomplete. And third, there is no information for immigration to other parts of industrialized world such as Western Europe or Australia.

Indian immigrants in the United States constitute a selective group, due to the nature of the 1965 Immigration Act that replaced 'race' as a barrier to immigration with

a preference for Eastern hemisphere countries. A preferential entry status was given to visa applicants who were either relatives of U.S. citizens or workers with skills/professional qualifications. Thus, the 1965 Immigration Act caused an influx of Indian professional workers and students since the act made it easier for the entry of these persons who were trained after the British or the American educational systems, with English as the medium of instruction. Although the new immigrants may not be the majority of those entering the United States now, this group of immigrants increased in numbers and have become prominent in the last thirty-five years.⁴⁰ Table 9 gives us data on immigration into the United States by occupation. They are professionals well educated in medicine, engineering, and science and are typically what Charles Keely (1971, 1980)⁴¹ calls the “New Immigrants” or the “New Immigration” – terms coined to make a distinction between those coming in to the U.S. after the 1965 Act.

Migration flows to industrialized countries; the United States in particular, during the 1990s was considered as the most critical phase of globalization, given its magnitude and composition. In addition, these have been important for both theoretical and policy reasons. However as mentioned by many researchers there is hardly any detailed analysis of the changing nature of this flow.

⁴⁰ A second type of migration pattern from India has been the flow of labor to the oil exporting countries of the Middle East following the dramatic oil price increases of 1973-74 and 1979. An overwhelming majority of this labor force has been categorized as either unskilled workers or as semi-skilled with some skills in manual or clerical occupations. Since the focus of this dissertation is on skilled labor migration, I will not focus on this migration flow.

⁴¹ Charles Keely, “Effects of the Immigration Act of 1965 on Selected Population: Characteristics of Immigrants to the United States,” *Demography* 8 (1971): 157-169; Charles Keely, “Immigration Policy and the New Immigration, 1965-1976,” in *New Immigration: Implications for the United States and the International Community*, ed. Roy Simon Bryce-Laporte (New Brunswick, NJ: Transaction Books, 1980).

Table 7. Estimated Size of Overseas Indian Community: Country -Wise as of 2004

Country	PIOs	Indian Citizens	Stateless	Total
Myanmar	2,500,000	2,000	400,000	2,902,000
USA	0	0	0	1,678,765
Malaysia	1,600,000	15,000	50,000	1,665,000
Saudi Arabia	0	1,500,000	0	1,500,000
UK	0	0	0	1,200,000
South Africa	0	0	0	1,000,000
UAE	50,000	900,000	0	950,000
Canada	700,000	150,000	1,000	851,000
Mauritius	704,640	11,116	0	715,756
Trinidad & Tobago	500,000	600	0	500,600
Guyana	395,250	100	0	395,350
Fiji	336,579	250	0	336,829
Oman	1,000	311,000	0	312,000
Singapore	217,000	90,000	0	307,000
Kuwait	1,000	294,000	0	295,000
Reunion Islands	220,000	55	0	220,055
Netherlands	200,000	15,000	2,000	217,000
Australia	160,000	30,000	0	190,000
Suriname	150,306	150	0	150,456
Bahrain	0	130,000	0	130,000
Kenya	85,000	15,000	2,500	102,500
Yemen	100,000	900	0	100,900

Source: Statistics compiled from the report of High Level Committee on Indian Diaspora, FICCI

Table 8. Trends in Immigration from India to Selected Industrialized Countries

(Number of Persons)

Year	United States	Canada	United Kingdom	Year	United States	Canada	United Kingdom
1951	109	120	n.a	1971	14,310	5,313	6,900
1952	123	226	n.a	1972	16,926	5,049	7,600
1953	104	169	n.a	1973	13,124	9,433	6,240
1954	144	208	n.a	1974	12,779	12,731	6,650
1955	194	224	n.a	1975	15,773	10,106	10,200
1956	185	254	n.a	1976	17,487	6,637	11,020
1957	196	186	n.a	1977	18,613	5,514	7,340
1958	323	325	n.a	1978	20,753	5,112	9,890
1959	351	585	n.a	1979	19,708	4,517	9,270
1960	391	505	n.a	1980	22,607	8,491	7,930
1961	421	568	n.a	1981	21,522	8,263	6,590
1962	545	529	2,900	1982	21,738	7,792	5,410
1963	1,173	737	15,500	1983	25,451	7,051	5,380
1964	634	1,154	13,000	1984	24,964	5,513	5,140
1965	582	2,241	17,100	1985	26,026	4,038	5,500
1966	2,458	2,233	16,700	1986	26,227	6,970	4,210
1967	4,642	3,966	19,100	1987	27,803	9,747	4,610
1968	4,682	3,229	23,100	1988	26,268	10,432	5,020
1969	5,963	5,395	11,000	1989	31,175	8,836	4,580
1970	10,114	5,670	7,200	1990	30,667	10,662	5,040

Source: Nayyar, 1999

The above data on immigration are reported by country of birth for the United States, by Country of last permanent residence for Canada, and by country of nationality for the United Kingdom (b) Information on immigration from India to the United Kingdom is not available for the period before 1 July 1962 because, until then, Commonwealth citizens were not subject to immigration control. It is very clear that the United States accounts for the largest number of Indian emigrants. It shows that Indian immigration in the United States which constituted less than 1 per cent of total immigration from all countries during 1950s and 1960s, registered a rapid increase during the 1970s, reaching a peak of 3.8 per cent that tapered off in the 1980s till 1991 but went on the upswing in 1992 at 3.8 per cent again and further touching almost 5 per cent in 1996.

Table 9. India's Share in Total Immigration to the US: 1951-1996

Immigration	1951-60	1961-70	1971-80	1981-90	1991	1992	1993	1994	1995	1996
From India	2,120	31,214	172,080	261,841	45,064	36,755	40,121	34,921	34,748	44,859
From All Countries	2,515,000	3,322,000	4,493,000	7,338,000	1,827,167	973,977	904,292	804,416	720,461	915,900
India's share (Percent)	(0.1)	(0.9)	(3.8)	(3.6)	(2.5)	(3.8)	(4.4)	(4.3)	(4.8)	(4.9)

Source: Khadria, 1999

Note: For UK, data are not available prior to July 1962. Hence the figures on immigration to the United Kingdom in the columns for 1961-70 and 1951-90 relate to the periods 1962-70 and 1962-90 respectively

The author of one study has attempted to collate the latest information pertaining to Indian immigration flows to the industrialized world with a view to examining the trends between 1991 and 2004. The information to the three main destinations, the USA, Canada, and the UK are presented in the tables 10, 11, and 12 respectively.

Data from these tables suggest that the annual inflow of Indian immigrants in the USA doubled as a percentage of total immigration from 2.5% in 1990 to 5.0% in 2000 and further went up to 6.9% by 2004. India also remains in the list of top ten sending countries to the United States with acquiring the second position after 2001. In the case of Canada, the annual inflow of Indian immigrants increased from 14,306 in (6.1% of the total immigrants) in 1991 to almost double at 28,183 (11.5% of total immigrants) in 2004. Here too, India remains the second highest sending country from 1997. The percentage of Indian emigration to the UK dropped considerably as a percentage of total immigration from 10.5% in 1990 to 6.8% in 2001. Irrespective of this decline, India was the second highest sending country after Pakistan till 1999, after which it acquired the third position.

Migration from India to industrialized countries, though modest in scale, has grown steadily since 1950. Nearly 1.25 million Indians have migrated to the principal destinations. The emigration of Indians to the industrialized countries can be explained both in terms of supply side factors as well as demands side factors. Several research studies on migration of professional and technical persons from LDCs to industrial countries have shown that the wage gap between the two destinations has significant and positive impact on the volume of migration. The flow was especially impressive during the 1990s, a period that incidentally witnessed tightening of immigration policies in

Table 10. Indian Immigration to the United States 1991 – 2004

Year	Number	Place in top ten sending countries	Percentage of Indians to total immigration
1991	45064	7	3
1992	36755	6	4
1993	40121	6	4
1994	34921	6	4
1995	34748	6	5
1996	44859	3	5
1997	38071	5	5
1998	36482	3	6
1999	30237	4	5
2000	42046	4	5
2001	65916	2	6
2002	66864	2	6
2003	47157	2	7
2004	65472	2	7

Source: www.migrationinformation.org and 2004 Yearbook of Immigration statistics

Table 11. Indian Immigration to Canada 1991 – 2004

Year	Number	Place in top ten sending countries	Percentage of Indians to total immigration
1991	14306	4	6
1992	14301	3	6
1993	21750	2	8
1994	18576	4	8
1995	18262	3	7
1996	23380	3	10
1997	21708	2	10
1998	16965	2	10
1999	18833	2	10
2000	28148	2	12
2001	30804	2	12
2002	31669	2	14
2003	27419	2	12
2004	28183	2	12

Source: www.migrationinformation.org

Table 12. Indian Immigration to the United Kingdom 1991 – 2001*

Year	Number	Place in top ten sending countries	Percentage of Indians to total immigration
1991	5680	2	11
1992	5500	2	11
1993	4890	2	9
1994	4780	2	9
1995	4860	2	9
1996	4620	2	8
1997	4645	2	8
1998	5430	2	8
1999	6295	2	7
2000	8045	3	6
2001	7280	3**	7

Source: www.migrationinformation.org

* Information for UK was available till 2001

**For the year 2001, India was 3rd highest sending country after Pakistan (11,535) and Somalia (8290).

many industrialized countries.⁴² Another striking feature of migration flows from India to the industrialized nations during the 1990s is the growing importance of newer destination countries. This period also witnessed significant flow of Indian professionals, especially IT professionals, to countries such as Australia, Germany, Japan, and Malaysia. For instance, nearly 40,000 Indians migrated to Australia, accounting for 4.1% of total immigrants. Many European countries, such as Germany, prefer the entry of highly skilled Indians to work in fields related to IT. Notwithstanding all these facts, one problem with respect to emigration statistics is that these are generally seen as unreliable internationally since people departing from their country of citizenship are often reluctant to be classified officially as emigrants until they have obtained at least permanent residence status in their countries of destination. Second, data coming from source countries are generally misleading and incorrect, as many movements remain illegal and clandestine. Whatever analysis has been carried out to date on the composition of these flows is thus based upon immigration statistics of the countries of destination and other private researches.⁴³

UNITED STATES AS RECEIVING COUNTRY

Data with respect to the Indian immigration into the United States can be traced as early as 1820 with the first official Indian entry into the United States. Milestones in the History of Asian Indians in North America can be viewed in Table 13.

⁴² Ravi Srivastava and S.K. Sasikumar, *An Overview of Migration in India: Its Impact and Key Issues* (New Delhi: Sage Publications, 2003).

⁴³ See Deepak Nayyar, *Globalization and Migration: Retrospect and Prospect* (NOIDA: V.V. Giri National Labour Institute, 1999).

Table 13. Milestones in the History of Asian Indians in North America

Year	Significance
1820	Recorded entry of one Indian immigrant
1901	First significant immigration of Sikhs to the West Coast
1907	First major outbreaks of violence against Indian immigrants in Washington state
1910	East Indians declared eligible for citizenship in <i>United States v. Balsara</i>
1917	Congress enacts law barring East Indians and other Asians from becoming citizens
1923	The Supreme Court rules in <i>United States v. Bhagat Singh</i> that East Indians are not eligible for citizenship because they are not white according to a 1790 naturalization law that restricted citizenship only to “free white” people
1926	An Indian lawyer, Sakaram Ganesh Pandit, successfully argues that East Indians are Aryans (hence white) and is allowed to retain his American citizenship
1946	Congress enacts law allowing East Indians citizenship and allots India an annual immigration quota of 100 people
1956	Dilip Singh Saund becomes the first South Asian to be elected to Congress
1965	New immigration laws enacted to allow Indians – and every nationality – equal immigration rights and to give preferential treatment to professionals and relatives of citizens and permanent residents
1982	Move to reform immigration law is launched in Congress. Asian Indians lobby against proposals that seek to deny immigration rights to certain categories of relatives

Source: Arthur, W. Helweg, *Strangers in a Not-So-Strange Land: Indian American Immigrants in the Global Age*, (Belmont, London, Ontario: Wadsworth, 2004), Appendix C, p 135.

Regular flows of Indian students and highly skilled workers could be seen by the 1970s after the Immigration and Nationality Act Amendments of 1965 that gave priority to the highly trained and educated professionals, at least for the first ten years explicitly. This was a departure from previous migrations to the United States that had mostly comprised workers and laborers. The new brand of migration primarily consisted of urban, educated and English-speaking people.

According to the most recent data provided by the United States Immigration and Naturalization Service INS (2004 Yearbook of Immigration Statistics), India now occupies the second position for being the largest source of legal migrants to the U.S. after Mexico. For Mexico, 2001 was the year with the highest number of entries of legal migrants, with 204,884 people. For India, 2001, 2002, and 2004 were the highest with 65,916 (6.6% of total immigration), 66,864 (6.6% of total Immigration), and 65,472 (6.9% of total immigration) respectfully. With this, India replaces China as the second highest country of legal migrants (Table 14).

Annual immigration into United States from India as recorded by the Immigration and Naturalization Services (INS) reveals some interesting data with important implications for the United States. According to the 2000 Census, the Indian American population stands at 1,678,765 comprising about 0.6% of the total US population. Asian American population taken together constitutes 3.6 % of the United States population, with 10,242,998. The number of naturalizations for Indian American community jumps from 11% in 1991 to 18% in 2004(Figures 7 and 8 respectively). The Indian American is currently the third largest constituency in 2004 stood as the 3rd largest constituency in the Asian American community, behind the Filipino American, and the Chinese American

Table 14. Immigration into the U.S. from China, India, and Mexico: A Comparison

IMMIGRATION TO THE UNITED STATES FROM 1989-2004

Year	Mexicans	Indians	Chinese	World Total
1989	405,172	31,175	32,272	1090924
1990	679,068	30,667	31,815	1536483
1991	946,167	45,064	33,025	1827167
1992	213,802	36,755	38,907	973975
1993	126,561	40,121	65,578	904292
1994	111,398	34,921	53,985	804416
1995	89,932	34,748	35,463	720459
1996	163,572	44,859	41,728	915900
1997	146,865	38,071	41,147	798378
1998	131,575	36,482	36,884	654451
1999	147,573	30,237	32,204	646568
2000	173,919	42,046	45,652	849807
2001	204884	65916	50821	1064318
2002	217318	66864	55974	1063732
2003	114984	47157	37395	705827
2004	173664	63472	45942	946142

Source: <http://uscis.gov/graphics/shared/statistics/yearbook/YrBk03Im.htm>

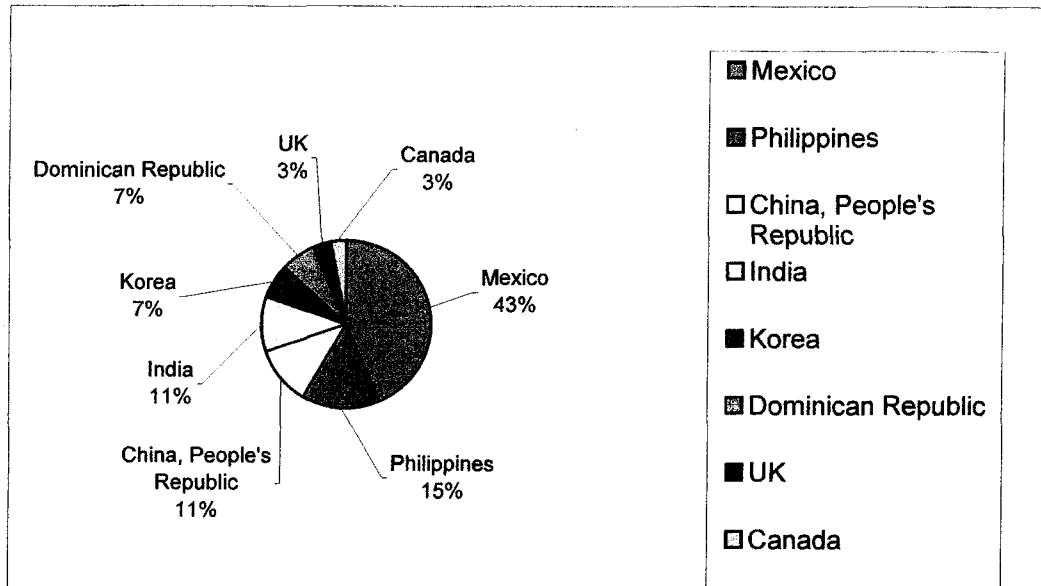


Figure 7. Total Number of Naturalizations of Selected Countries and India's Position in 1991

Source: data compiled from the 2004 Yearbook of Immigration Statistics

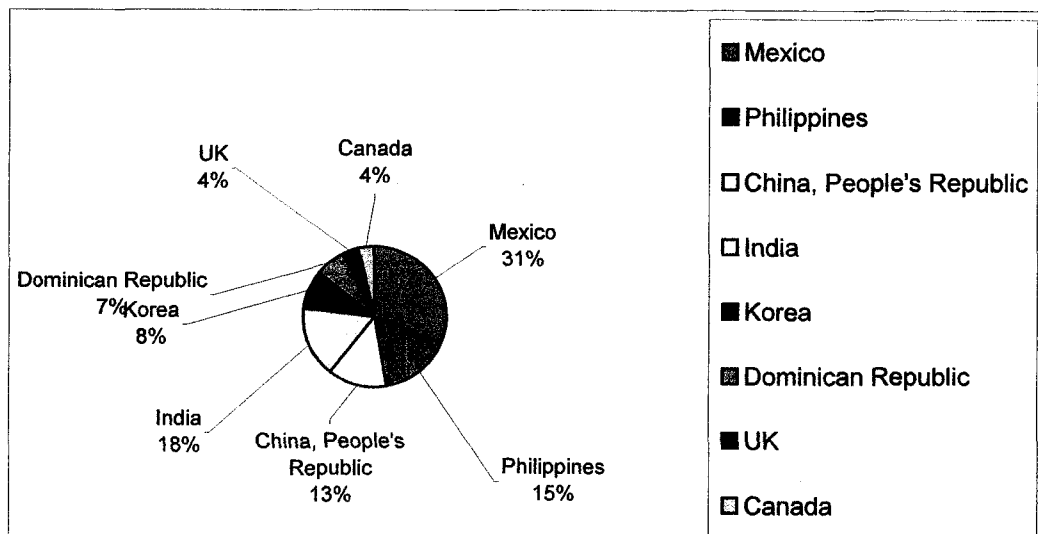


Figure 8. Total Number of Naturalizations of Selected Countries and India's Position in 2004

Source: data compiled from the 2004 Yearbook of Immigration Statistics

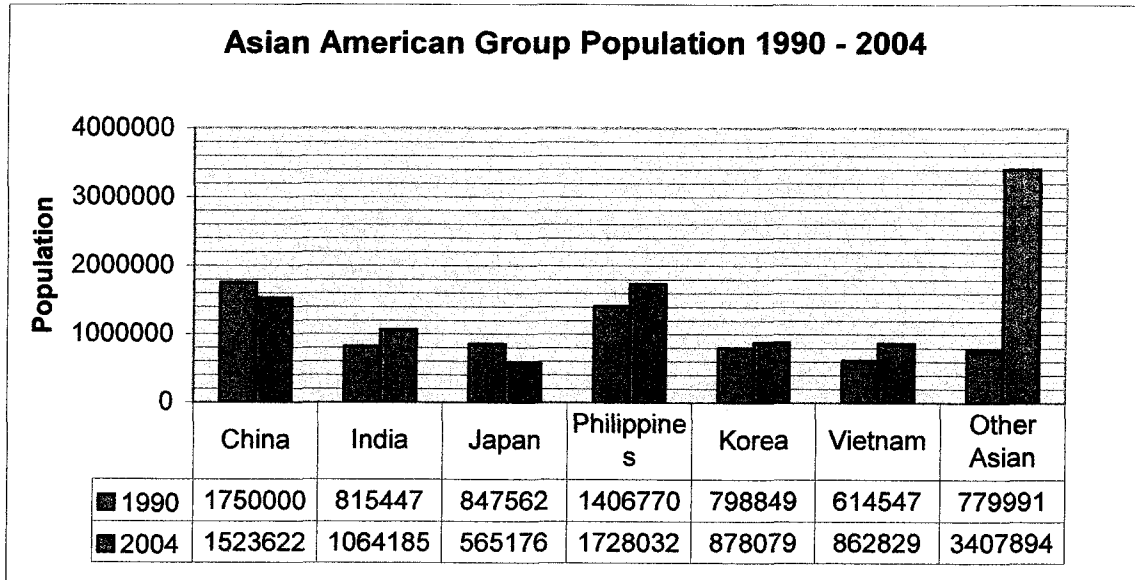


Figure 9. Comparison of Asian Immigrants from 1990 to 2004

Source: data compiled from the 2004 Yearbook of Immigration Statistics

community respectively (Figure 9). The importance lies in the fact that the overall growth rate for Indian Americans from 1990-2004 was 105.87%, the largest growth in the Asian American community.⁴⁴

This impressive growth can be largely attributed to the significant increase in the migration flows in the last four years (2001: 65,916; 2002: 66,864; 2003: 50,372; and 2004: 65,472). This total includes the new arrivals to the U.S. who obtain immigrant visas abroad through the Department of State and people who were already living in the United States, who became permanent residents by applying for adjustment of status with the INS. In the year 2001, the total figure was divided as follows: new arrivals: 411,059 (38.6%) and adjustment of status: 653,259 (61.4%).

Legal immigration in recent years, including the fiscal year 2001 – 2002, has also been affected by a backlog in adjustment of status applications pending. According to the INS, the increase in the number of legal immigrants between fiscal years 2000-01 and 2001- 02 reflects improved processing of adjustment cases by them – from 442,405 to 653,259 – that continue into the current fiscal year.

Political, Economic, and Migration Linkages

For many decades, policymakers in both India and the United States have focused their attention strictly on the political and economic relation between them. The migration of students and professionals from India was mainly seen in terms of costs as the emigration of computer professionals to the U.S. alone cost India about \$ 2 billion annually. There was little or no connection attached either politically or economically

⁴⁴ The facts have been compiled from www.census.gov and generated accordingly

insofar as immigration laws for the people migrating that tended to be an individuals' problem or the remittances that flowed into the country.

With increasing migration in the last couple of decades, new social, political, and economic ties have emerged influencing policymakers in both countries. The Indian American community, close to two million people, represents one of the wealthiest and educated Diaspora groups in the United States. As high achievers in important fields, there are approximately 300 Indian-American entrepreneurs with a personal net worth of at least \$5 million, many in the high technology sector. With the transformation of Indian economic policy since 1991, corporate America has begun to take India seriously in the wake of these emerging linkages.

The Indian American community has also organized itself along political lines and contributed generously to both the Democratic and Republican parties in the U.S. in an effort to lobby issues to interest to their country of origin. The 2000 and 2004 presidential elections in the United States represent one of the most visible and influential role-played by them (explained in detail in chapter VI). With new linkages, between political economic, and migration, with visible benefits for the home country, the literature on brain drain takes a departure from its traditional stance to explore new avenues for gain.

CONCLUSION

The development of Indo-US relations, can be defined as a relationship that had a shaky start, a history of disagreements over a wide range of issues, and instances of cooperation, albeit rare. The bilateral relationship has a history of being influenced by

U.S. policies towards India's neighbors and India's policy of non-alignment and its relations with the erstwhile Soviet Union. Pakistan and China's relations with America have also influenced the bilateral relationship existing between them. Added to this has been the politics of the Cold War and it becomes easy to understand why relations between the two democracies were often based on mutual mistrust and misperceptions.

The end of the cold war coupled with the adoption of liberalized economic policies in India has led to unprecedented economic ties between the two countries. Although India tested nuclear weapons in May 1998 and had economic sanctions imposed on it, the relationship between the two countries remained strong. The freeze did not last very long and improvement in relations was evident in the visit of President Clinton to India in March 2000, the first presidential visit in over 20 years. Since then relations between the two countries have swiftly evolved into what has been termed as a policy of comprehensive engagement coupled with international migration. Since then Indo-US relations have developed at an unprecedented pace, especially in the politico-military sphere. The terrorist attacks in the US in September 2001 and on the Indian Parliament in December 2001 have further galvanized the growing closeness as both face similar threats to their security.

At the dawn of a new century, both India and the United States have transformed their relationship from what it had been in the past. A stable India with a burgeoning middle class and growing economy is seen as more advantageous to the United States in the long run given India's role in South Asian and world affairs. The New York Times

columnist Tom Friedman has aptly put this point when he remarked that, “while General Powell may like General Musharraf, General Electric prefers India!”⁴⁵

These linkages remain incomplete without reference to increasing movement of people between the two countries. As an emerging economic and political force, the Indian Diaspora promises new linkages between the sending and receiving countries.

⁴⁵ Thomas Friedman, *Long and Short of India-US Relations* (2002). Available [Online]: <http://fecolumnists.expressindia.com/full_column.php?content_id=15846>[25 August 2002].

CHAPTER IV

UNITED STATES: IMMIGRATION LAWS AND FUTURE OF BRAIN DRAIN

“Give us your tired, your poor . . . your scientists and your mathematicians.”¹

INTRODUCTION

Nations increasingly seek to control the various kinds of flows (legal immigrants, refugees, unauthorized migrants, and non-immigrants) across their borders. In an era of unrestricted global markets, cross-national studies find a set of relatively consistent factors that both “push” people out of their homelands and “pull” them into the developed world. Receiving countries, primarily industrial economies, thus become the site of migration influx with ‘pull’ factors such as: professional opportunities; better living and working conditions; opportunities for employment; and in some cases, political freedom. Many studies see the pull of higher salaries, greater logistical support, political stability, and opportunities for higher education to the rich industrial countries, as the root cause of brain drain. In addition, immigration laws and policies associated with the receiving countries, remains selective and biased bringing in new immigrants with a given level of human capital, *inter alia*, in their schooling, occupation, and wages.

By the end of the 19th century, the United States of America emerged as an important destination for migrants, as Western Europe had been during the era of colonialism. Earning descriptive phrases such as “a nation of immigrants” and “melting pot of the world”, the development of its population has been influenced by both the quantity, and quality of people who come to America. Since the attraction of highly

¹ By Scott Stephens, *Immigrants’ Kids: Nation’s Brainy Superstars*, (July 20, 2004). Available [Online]:<<http://www.bridges4kids.org/articles/8-04/PlainDealer7-20-04.html>> (3 November, 2005)

skilled people remains a strategic decision on the part of the U.S., it clearly represents a case for brain drain, with increasing developments in the core-periphery divide.

Although there are many aspects of immigration laws and policies relating to both the receiving country as well as the socio-economic integration of the migrants, of particular importance to this research is the notion of selective immigration and observe whether it is a much calculated attempt to drain the “more knowledgeable” from the less developed countries. Thus, the focus of this chapter will be restricted to immigration laws adopted by the United States to attract and pull in the highly skilled manpower, in an obvious attempt to get a ‘brain gain’ for itself. However, as human capital produces positive macroeconomic benefits, this dissertation argues that, brain drain can be effectively viewed as a positive phenomenon, given that a large portion of this skill/education was developed in the United States, to be disseminated to the country of origin. The aim of this chapter is also to shift the focus from a negative image about immigration towards a more positive evaluation of the current immigration laws.

The United States immigration laws remain varied, and for the most part controversial. Since policies set the boundaries, to some extent, on the numbers and kinds of immigrants to the United States, policies shall be examined first, followed by data on recent migration, by country, occupation, and selection criteria. Since Asians, more than any other people have predominated the new wave of immigrants admitted to the United States beginning in 1965 and becoming greater during the 1980s,² there will be an attempt to look at how United States immigration policies have changed over time with respect to Asian professionals and students. Impacts will be discussed primarily with regard to brain drain and its application as a ‘brain exchange’ strategy for many

² This has been well documented in the literature review

sending countries. Finally, I will conclude with speculations as to the future course of immigration to the United States with respect to brain drain.

THE IMMIGRATION DEBATE

Immigration to the United States is a topic that excites the interest of scholars, policy-makers, and the general public, bringing forth a rich array of behavioral, historical, constitutional, and legal questions. The immigration debate from colonial times has been dominated primarily with questions such as, ‘who comes, and why? How long do they stay? What happens to their identity? What happens to their children? Is immigration too costly? And, are there net economic gains or losses to the native workers?’³

In recent times the debate has been more concentrated on economic, social and cultural dimensions of immigration as the migration of large flows of people across national boundaries is seen as an important component of demographic change. Most of the literature written about immigration and host countries focus on the numerical (and economic) importance of the immigrant population in the labor markets of the host countries or on the political aspect of foreign policy considerations with the migration flows.⁴ Thus, for receiving countries, entry has always been more problematic than exit.⁵

With the steady stream of migrants pouring into the advanced industrial democracies after World War II, many states have begun to search for ways to stop or

³ W.I. Thomas and F. Znaniecki, *The Polish Peasant in Europe and America* (Boston: William Badger, 1918-20), provide early examples to these questions

⁴ For instance, the recent referenda and legislation in the United States (proposition 187 in California, the Omnibus Crime and Control Act, the anti-terrorist legislation of 1995, and the 1996 welfare and immigration bills.

⁵ Frank D. Bean and David A. Spencer, “Controlling International Migration through Enforcement: the Case of the United States,” in *International Migration: Prospects and Policies in a Global Market*, ed. Douglas Massey and E.J. Taylor (Oxford: Oxford University Press, 2004).

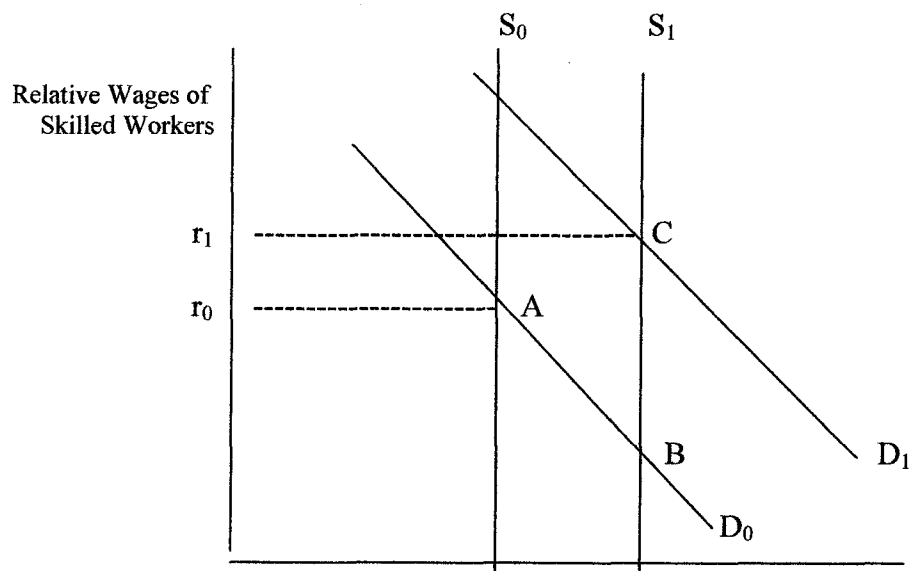
slow this influx. Choosing policies relating to migration leads us to ask: who makes decisions relating to immigration and in whose interest. Are policies being made in the interest of the migrants, workers, employers or the state? In addition to these questions are aspects of nationality and sovereignty, since migration changes both the economics and the sociological equation in the society.

Many researchers and economists, with respect to the demand for skilled workers have attributed international trade and the internationalization of the U.S. economy as an important reason for the increase in the relative demand for skilled workers. Borjas⁶ explains that: with the globalization of the US economy –rising exports and even more rapidly rising imports – there is a beneficial impact on the demand for skilled workers, and an adverse impact on the demand for unskilled workers. The globalization of the US economy, therefore, can be graphically represented as an outward shift in the relative labor demand curve in Figure 10 below. The economist, (Borjas, 2000) further explains that a rightward shift in the supply-demand framework shows that the relative supply and demand curves for skilled workers were in a race in recent years and that the observed trend in wage inequality suggests that the demand curve “won” the race.

Furthermore, the demand for skilled workers also increased because of the skill-biased technological change.⁷ This is explained as, if the technological advances being introduced constantly into the labor market are good substitutes for unskilled workers and complement the skills of highly educated workers, it reduces the demand for unskilled workers.

⁶ George J. Borjas, *Labor Economics*, 2nd edition (Boston: McGraw-Hill Companies, 2000), 287.

⁷ Ibid, 289.



Explanation: the downward-sloping demand curve implies that employers wish to hire relatively fewer skilled workers when the relative wage of skilled workers is high. The perfectly inelastic supply curve indicates that the relative number of skilled workers is fixed. Initially, the labor market is in equilibrium at point A. Supposing that the relative supply of skilled workers increased to S_1 , the rising relative wage of skilled workers can then be explained only if there was a sizable outward shift in the relative demand curve (ending up at point C).

Figure 10. Demand for Skilled Labor

Source: George J. Borjas, *Labor Economics, 2nd Edition* (Boston: McGraw-Hill Companies, 2000), 287

Debates about immigration have shifted their focus from the general paradigm of damage from immigration to local workers and the economy, to new arguments about benefits from immigration levels. The debates have a new approach that prefers to look at the *characteristics* of immigrants (country, education, skills), citizenship, economic, and social change, culture, and national identity. This is most visible in the United States where the political meaning of immigration to the United States in the last two decades has been vigorously debated. Generally, the receiving countries' perspectives were dominated by the impact of immigration on the employment status of the local populations. "According to Professor Borjas, immigrants had depressed the average wage of American-born workers by about 3 percent in the 1990's."⁸

Despite popular beliefs, many theorists and economists have maintained, using a basic economic model, that there is a net economic gain for the domestic residents for several reasons. At the most basic level, immigration increases the supply of labor and help to produce new goods and services. In addition, since they are paid less than the total value of these new goods and services, the domestic workers as a group gain.⁹ In "Rethinking the Gains From Immigration: Theory and Evidence From the U.S.," Gianmarco I. P. Ottaviano of the University of Bologna and Giovanni Peri of the University of California, Davis estimate that immigration in the 1990's increased the

⁸ Virginia Postrel, *Yes, Immigration May Lift Wages*, (November 3, 2005). Available [Online]:<<http://www.nytimes.com/2005/11/03/business/03scene.html?emc=eta1>> (4 November 2005).

⁹ James P. Smith and Barry Edmonston, *The New Americans: Economic, Demographic, and Fiscal Effects of Immigration* (Washington D.C.: National Academy Press, 1997). Chapters 4 & 5 (Immigration Effects on Jobs and Wages)

average wage of American-born workers by 2.7 percent.¹⁰ Moreover, many researchers argue that skill-biased technological change explains most of the increase in wage inequality in the United States.¹¹

David Plotke in his article¹² argues that the United States should continue to allow large-scale immigration at current or even higher levels, as the benefits of immigration are high. In political terms, he argues for favoring immigrants for three reasons: (a) immigration leads to free association, (b) immigration reflects on the meaning of American political institutions and commitments and (c) immigration directly or indirectly encourages political innovation. The former U.S. Secretary of State, Colin Powell, stated that:

“Some argue that we should raise the drawbridge and not allow in any more foreign visitors. They are wrong. Such a move would hand a victory to the terrorists by having us betray our most cherished principals. For our own nation’s well being, and because we have so much to give, we must keep our doors open to the world--. Openness is fundamental to key of our successes a nation, economically, culturally and politically. Our economy will sputter unless America remains the magnet for entrepreneurs from across the world. Our culture will stagnate unless we continue to add new richness to our mosaic. And our great national mission of spreading freedom will founder if our own society closes its shutters to people and ideas.”

Former Secretary of State, Colin Powell, Wall Street Journal Commentary, 21 April 2004

¹⁰ Giovanni Peri, *Rethinking the Gains From Immigration: Theory and Evidence From the U.S.*, (January 2006). Available [Online]:<http://www.econ.ucdavis.edu/faculty/gperi/Papers/perott_aggregate_6.pdf>[12 March 2006].

¹¹ John Bound and George Johnson, “Changes in the Structure of Wages in the 1980s: An Evaluation of Alternative Explanations,” *American Economic Review* 82 (June 1992): 371-392; also see Steven J. Davis and John Haltiwanger, “Wage Dispersion Between and Within US Manufacturing Plants: 1963-1986,” *Brookings Paper on Economic Activity: Microeconomics* (1991): 115-180; Jacob Mincer, “Human Capital, Technology, and the Wage Structure: What do the Time Series Show?” in *Studies in Human Capital*, Jacob Mincer (Hampshire, UK: Aldershot, 1987).

¹² David Plotke, “Immigration and Political Incorporation in the Contemporary United States,” in *The Handbook of International Migration: The American Experience*, eds. Charles Hirschman, Philip Kasinitz, and Josh DeWind (New York: Russell Sage Foundation, 1999) 294-318.

Many contemporary scholars also agree that immigration has both political as well as social and economic advantages and that should be compelling enough to make relatively open immigration policies. This can be seen in many news reports.

“Immigration to the United States began to swell in the 1980s. By the 1990s, it contributed a larger share of the growth in the nation’s labor force than at any other time since the end of World War II. Much of it came from Latin America and Asia. By the late 1990s, Hispanics and Asians were starting businesses at four times the rate of the general population.”

--Dallas Morning News, February 11, 2003

And even when the economy as a whole gains, the differences are seen mostly within the immigrants themselves. “The gainers are usually owners of productive factors that are complementary with the labor of immigrants – that is, domestic, high-skilled workers.”¹³

At a political level links between international migration and foreign policy have not always been direct or explicit, however, since the Second World War, “the admission of refugees into the United States has been clearly related to foreign policy aims.”¹⁴

The American political system, being a liberal, democratic, having a federal constitution, has not been very efficient in turning immigration policy to military, diplomatic, or foreign economic objectives. The United States Congress has controlled the immigration issue and it has been consistently susceptible to interest groups, ethnic lobbies, and other provincial concerns. The result has been that immigration politics in the United States

¹³ See James P. Smith and Barry Edmonston, p 5.

¹⁴ See Sharon Stanton Russell, “Migration Patterns of U.S. Foreign Policy Interest” in *Threatened Peoples, Threatened Borders: World Migration and U.S. Policy*, eds, Michael S. Teitelbaum and Myron Weiner (New York, London: W.W. Norton & Company, 1995), 40.

had been a scene of structural conflict between the executive and legislative branches of the government.¹⁵

Americans are more likely than any other country in the world to think of themselves as immigrant people. However, looking beyond the general beliefs of America as the land of opportunity for the poor and the oppressed of the world, America's generous immigration policies for continuing immigration reveals a need for economic growth by the highly-skilled immigrants. Americans have always felt uncomfortable justifying immigration in strictly economic terms, however, it cannot have passed the attention of many that America has taken legislative and executive actions to control its borders from the illegal migrants mostly low-skilled workers and openly promote, again through legislative actions, the recruitment of the high-skilled workers or in other words, promote 'brain-drain'.

HISTORY OF IMMIGRATION IN THE UNITED STATES

Throughout its history, the United States has been continuously dealing with issues pertaining to its immigration policy. Basic questions such as: how many people should be allowed to enter into the country? Who should be let in and who should be excluded? And within those decisions, questions such as what level of importance should be assigned to nationality or race, family ties, economic contribution, and economic self-sufficiency, have been at the heart of all immigration debates in the United States. Legislation in the United States immigration history does attempt to shed some light on the nature of immigration desired in the United States, both historically and

¹⁵ See Gary S. Freeman and Katharine Betts, "The Politics of Interests in Immigration Policymaking in Australia and the United States," in *Nations of Immigrants: Australia, United States, and International Migration*, eds. Gary Freeman and James Jupp (Melbourne: Oxford University Press, 1992).

contemporarily. Interestingly, “ebbs and flows in the volume and composition of immigration have not always been dictated by conscious policy decisions and legislation, but they certainly have been shaped by them.”¹⁶

Table 15 provides a brief summary of major federal immigration legislations introduced in the United States. Each legislative act introduced, observes the various issues that were dealt with at every level, such as: race; ethnicity; nationality; and language. In all of the acts, the notion of selective immigration remains primary. Early immigration legislation was largely a response to racism and was designed to exclude or block those who appeared as ‘threat’ in the form of cheap immigrant labor. Thus, the restrictive legislation of the 1920s severely limited immigration to the United States from most countries, except those of northwest Europe. The increase in immigration levels (especially that of the highly-skilled) can be attributed to the ‘Immigration and Nationality Act of 1965’ that fully came into force in 1968. This new legislation gave priority to highly trained and educated professionals, at least for the first decade that this law was passed.

Immigration into the United States can be categorized into five distinct periods:¹⁷ (a) *the colonial era* (1607-1790); (b) *the old immigration* (1790-1890); (c) *the new immigration* (1890-1930); (d) *the depression* (1930-1965); and (e) *third world immigration* (1965-current). Immigration policy had not existed in the ‘colonial era’ and various colonies had taken on their own ethnic and religious character. During the ‘old

¹⁶ James P. Smith and Barry Edmonston, p 23.

¹⁷ As documented by: T.J. Archdeacon, *Becoming American: An Ethnic History* (New York: The Free Press, 1983).

Table 15. Major U.S. Legislation on Immigration

LEGISLATION	PROVISION
Chinese Exclusion Act, 1882	Restricted immigration of Chinese laborers for 10 years. Prohibited Chinese naturalization. Provided deportation procedures for illegal Chinese in the United States.
Immigration Act of 1891	Provided the first comprehensive immigration laws for the United States.
Immigration Act of 1924	Imposed the first numerical limit on immigration. Began a national-origin quota system, which generally restricted immigration from countries outside Northern and Western Europe.
Immigration and Nationality Act of 1952	Continued national-origin quotas. Set a quota for aliens with skills needed in the United States.
Immigration and Nationality Act Amendments of 1965	Replaced the national-origin quotas. Initiated a 7-category visa system for family unification and skills. Set a quota for Western Hemisphere immigration for the first time and set a country limit of 20,000 immigrants for the Eastern Hemisphere.
Immigration and Nationality Act Amendments of 1976	Extended the 20,000-country limit for the Western Hemisphere.
Refugee Act of 1980	Established the first systematic procedures for refugee admission. Removed refugees from the preference system for visa categories. Began a program for refugee resettlement.
Immigration Reform and Control Act of 1986	Started employer sanctions for knowingly hiring illegal aliens. Created a program for legalizing illegal aliens already residing in the United States. Increased border enforcement.
Immigration Act of 1990	Increased legal immigration ceilings. Tripled the numerical limits for employment-based immigration. Created a diversity admissions category.
Illegal Immigration Act of 1996	Introduced a pilot telephone verification program for employer to authenticate the legal immigration status of potential workers. Expanded restrictions on access of legal immigrants to welfare benefits. Increased border enforcement.

Source: Smith, James P., and Edmonston, Barry. 1997, p 24 and 25. The authors give a good background to contemporary US immigration.

immigration period' most Americans had settled down and the new Congress in 1790 passed a liberal naturalization act making citizenship available to settlers after only two years of residence. Over the next eight years, this was gradually extended to fourteen years. In addition, the Alien Sedition & Enemies Acts of 1798 and 1812 permitted the arrest, imprisonment, and deportation of immigrant males from enemy nations in war times. Prior to 1875 there had not existed any formal legislation restricting the admission of aliens into the country. After independence, many states had restricted the entry of poor people from outside the United States. The 'new immigration era' between 1812 and 1930 saw an unprecedented number of immigrants land on American shores. Most of these were from Europe, were Jews, young and males. These immigrants mostly contributed to the industrial machinery. The Congress alone at this point had the power to control immigration under Article 1 of the constitution.

The massive influx of foreigners in the first decade of the twentieth century, the newly exercised federal regulatory powers, and strong nativist agitation culminated in the early 1920s in broad legislation controlling both the numbers and the ethnicity of immigrants. This can be seen in the Chinese Exclusion Act of 1882, extending to the Japanese in 1917. Here it was popularly known as the 1907 Gentleman's Agreement with Japan, an arrangement made with the Japanese government to restrict immigration from Japan. Immigration also slackened during World War I as it had raised nationalism and anti-foreign sentiment to a high pitch. Immigration restrictions had been a core component of the politics of wartime nationalism and postwar reaction.

In response to the economic situation and widespread public support the Congress enacted the 1921 Quota Act. In 1921 Congress restricted immigration into the United

States to 350,000 a year. This was followed up with the *Screening Process*¹⁸ as some people have called it as the Immigration Act of 1924 when a new regime in immigration policy, that of numerical restriction, commenced in the 1920s. The Immigration Act of 1924 further restricted immigration to 150,000 a year, less than 15 percent of the average annual immigration of one million before World War I.¹⁹ The Johnson-Reed Immigration Act of 1924, created the framework for an admissions policy favoring those countries in Western and Northern Europe who had provided the bulk of the immigrants before 1860, by means of a complex 'national origins quota system'. This screening process has continued till today. At the same time, this also ended the historical policy of open immigration from Europe. Political and economic developments, both national and global, influenced this shift. Anti-alien sentiment in the United States had grown since the mid-1880s, mostly in response to the social problems associated with mass migration from southern and eastern Europe--urban slums, disease, poverty, class conflict.

Thus, by 1920 the system of mass industrial production had matured to a point where increased output was derived from technological improvement, and not from continually increasing inputs of unskilled labor. More broadly, immigration restrictions had become a part of a new global age. Thus, World War I marked the consolidation of the international nation-state system, based on Westphalian sovereignty, hardened borders, state citizenship, and passport controls.

¹⁸ Screening process discussed at length in Vernon M. Briggs, *Immigration Policy and the American labor Force* (Baltimore and London: The John Hopkins University Press, 1984), 46.

¹⁹ Act of May 19, 1921 (41 Stat. 5); Act of May 26, 1924 (43 Stat. 153); *Historical Statistics*, 105. Not all immigration was subject to numerical quota. Immediate family members of U.S. citizens could immigrate outside the quota limit, as 'non-quota immigrants.' Natives of the countries of the Western Hemisphere were not subject to quotas. At the same time, all Asians were excluded as 'persons ineligible to citizenship.' The quotas, then, were directed principally at European countries.

The Period from 1930 to 1965 of 'Depression and War' can be generally seen as a deviant in the normal pattern of immigration. Depression, war, and the global struggle against communism made the United States a less hospitable and desirable destination. It was a time of the 'Melting Pot' with the McCarran-Walter Act incorporating Asia into the scheme for the first time, allotting a hundred visas annually to each nation in the region and setting aside an additional 100 for an area known as the Asia-Pacific triangle. The McCarran-Walter Act²⁰ establishes the basic laws of U.S. citizenship and immigration. This act, also known as the 'Immigration and Nationality Act of 1952', has undergone several changes since its adoption. The 1924 and 1952 legislations marked a historic turning point in American immigration experience.

'Third world immigration' from 1965 opened the way for significant new immigration of persons quite different from those who had come in earlier periods. Originally, the law admitted only a certain number of immigrants of each nationality. However, a law passed by Congress in 1965 gave preference to immigrants with skills needed in the United States and to close relatives of U.S. citizens. Popularly known as the 'Immigrant Act of 1965', this eliminated the immigration quotas, establishing new criteria for immigrants (see table 16, clause d). The 1965 immigration act removed 'natural origins' as the basis of American immigration legislation and was framed as an amendment to the 1952 McCarran-Walter Act. The 1965 act abolished 'national origin' quotas and specified seven preferences for 'Eastern Hemisphere' quota immigrants (Table 17, clause d). These were: (1) unmarried adult sons and daughters of citizens; (2) spouses and unmarried sons and daughters of permanent residents; (3) professionals, scientists, and artists of exceptional ability; (4) married adult sons and daughters of U.S.

²⁰ This Act was vetoed by President Truman

Table 16. Legal Progress Toward Opening of the US Borders to Knowledge Workers in 1965

<p>Immigration and Nationality Act of June 27, 1952 (INA) (66 statutes-at-large 163)</p>	<p>Brought into one comprehensive statute the multiple laws which, before its enactment, governed immigration and naturalization in the United States. In general, perpetuated the immigration policies from earlier statutes with the following significant modifications:</p> <ol style="list-style-type: none"> a. Made all races eligible for naturalization, thus eliminating race as a bar to immigration. b. Eliminated discrimination between sexes with respect to immigration. c. Revised the national origins quota system of the Immigration Act of 1924 by changing the national origins quota formula: set the annual quota for an area at one-sixth of one percent of the number of inhabitants in the continental United States in 1920 whose ancestry or national origin was attributable to that area. All countries were allowed a minimum quota of 100, with a ceiling of 2,000 on most natives of countries in the Asia-Pacific triangle, which broadly encompassed the Asian countries. d. Introduced a system of selected immigration by giving a quota preference to skilled aliens whose services are urgently needed in the United States and to relatives of U.S. citizens and aliens. e. Placed a limit on the use of the governing country's quota by natives of colonies and dependent areas. f. Provided an "escape clause" permitting the immigration of certain former voluntary members of proscribed organizations. g. Broadened the grounds for exclusion and deportation of aliens. h. Provided procedures for the adjustment of status of nonimmigrant aliens to that of permanent resident aliens. i. Modified and added significantly to the existing classes of nonimmigrant admission. j. Afforded greater procedural safeguards to aliens subject to deportation. k. Introduced the alien address report system whereby all aliens in the United States (including most temporary visitors) were required annually to report their current address to the INS. l. Established a central index of all aliens in the United States for use by security and enforcement agencies. m. Repealed the ban on contract labor (see Act of March 30, 1868) but added other qualitative exclusions.
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Source: US, INS <http://uscis.gov/graphics/shared/aboutus/statistics/legishist/511.htm>

Table 17. Immigration and Nationality Act Amendments of October 3, 1965 (79 statutes-at-large 911)

<p>Immigration and Nationality Act Amendments of October 3, 1965 (79 Statutes-at-Large 911)</p>	<p>Provisions:</p> <p>a. Abolished the national origins quota system (see the Immigration Act of 1924 and the Immigration and Nationality Act of 1952), eliminating national origin, race, or ancestry as a basis for immigration to the United States.</p> <p>b. Established allocation of immigrant visas on a first come, first served basis, subject to a seven-category preference system for relatives of U.S. citizens and permanent resident aliens (for the reunification of families) and for persons with special occupational skills, abilities, or training (needed in the United States).</p> <p>c. Established two categories of immigrants not subject to numerical restrictions:</p> <ol style="list-style-type: none"> 1. Immediate relatives (spouses, children, parents) of U.S. citizens, and 2. Special immigrants: certain ministers of religion; certain former employees of the U.S. government abroad; certain persons who lost citizenship (e.g., by marriage or by service in foreign armed forces); and certain foreign medical graduates. <p>d. Maintained the principle of numerical restriction, expanding limits to world coverage by limiting Eastern Hemisphere immigration to 170,000 and placing a ceiling on Western Hemisphere immigration (120,000) for the first time. However, neither the preference categories nor the 20,000 per-country limit were applied to the Western Hemisphere.</p> <p>e. Introduced a prerequisite for the issuance of a visa of an affirmative finding by the Secretary of Labor that an alien seeking to enter as a worker will not replace a worker in the United States nor adversely affect the wages and working conditions of similarly employed individuals in the United States.</p>
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Source: US, INS <http://uscis.gov/graphics/shared/aboutus/statistics/legishist/526.htm>

citizens; (5) siblings of adult citizens; (6) workers, skilled and unskilled, in occupations for which labor was in short supply in the United States; and (7) refugees from Communist-dominated countries or those uprooted by natural catastrophe.

Since 1965, two million Asian quota immigrants, two million non-quota immigrants, and one million refugees outside the seventh preference have arrived in the United States. The sharp rise of immigration after 1965, led to the shift in source countries from Europe to Latin America and Asia. In fact, between 1965 and 1990, Asian immigration to the United States increased tenfold to a quarter of a million annually, as gates remained open at both ends. Although Asians were admitted in the family preference category, most Asians remained occupationally diverse having a greater number of professionals / executives (35%) than laborers (14%).²¹ As a result, this modern phase of immigration comprised typically “urban, educated, and English speaking”²² as compared to the earlier phase of unskilled workers and laborers. Besides selective immigration, the 1965 amendments pushed policy in the direction of favoring family reunification in the selection of immigrants.

SELECTIVE RECRUITMENT: SKILLED WORKERS AND STUDENTS

Skilled Workers: since the end of World War II and advent of Communism, United States has had a general approach towards immigration that encourages the highly skilled migrants (both permanent and temporary) with advanced degrees to enter the country on one hand, and discourages or closely control the entry of unskilled workers,

²¹ See Robert W Gardner, “Asian Immigration: The View from the United States,” *Asia and Pacific Migration Journal* 1 number 1 (1992): 64-99.

²² See Binod Khadria.

on the other. This was mostly seen as a need to develop the country by pulling in the best and the brightest in the whole world and also to combat Communism. Canada has a similar policy in place.

'Immigrants admitted by type and class of admission' category includes: (1) IRCA legislation; (2) non-legalization; (3) employment based immigration; and (4) immediate relatives of U.S. citizens. Of these the third category best represents an attempt to recruit skilled workers. The employment-based preference further consists of five categories: (1) priority workers; (2) professionals with advanced degrees or aliens of exceptional ability; skilled workers, (3) professionals (without advanced degrees), and needed unskilled workers; (4) special immigrants (e.g. ministers, religious workers, and employees of the U.S. government abroad); and (5) employment creation immigrants or investors. Spouses and children are also included in the employment preference limit.²³ Here it can be noted that a tremendous increase took place in the employment-based category, from 85,336 in 1995 to 155,330 in 2004 (Table 18).

In recent years, the top five sending countries from Asia include: the Philippines, Vietnam, Republic of Korea, People's Republic of China (PRC), and India. Thereafter, Asians have formed the second largest source of U.S. legal immigration, after North America including Mexico (Table 19). This can also be viewed in terms of percentages, North America: 36% and Asia 28% (Figure 11). Despite this fact, the data when further investigated reveals that employment based preferences was strongly in bias from people hailing from Asia with 59% followed by North America at 12% (see Figure 12).

²³ All data has been compiled from the *Yearbook of Immigration* 2006.

Table 18. Immigrants Admitted in the US by Type and Selected Class of Admission:
Fiscal Years 1995 – 2004

Year	Total Immigrants	Employment-Based Immigrants	Priority Workers	Professions with Advanced Degrees or Aliens of Exceptional Ability	Skilled Workers, Professionals, other Workers	Special Immigrants	Employment Creation
1995	720,461	85,336	17,339	10,475	50,245	6,737	540
1996	915,900	117,499	27,501	18,462	62,756	7,844	936
1997	798,378	90,607	21,810	17,059	42,596	7,781	1,361
1998	654,451	77,517	21,408	14,384	34,317	6,584	824
1999	646,568	56,817	14,898	8,581	27,966	5,086	286
2000	849,807	107,024	27,706	20,304	49,736	9,052	226
2001	1,064,318	179,195	41,801	42,620	86,058	8,523	193
2002	1,063,732	174,968	34,452	44,468	88,555	7,344	149
2003	705,827	82,137	14,544	15,459	46,613	5,456	65
2004	946,142	155,330	31,291	32,534	85,969	5,407	129

Source: All data has been compiled from: U.S. Department of Homeland Security, *2004 Yearbook of Immigration Statistics*, (Washington D.C.: Office of Immigration Statistics, 2006).

Table 19. Immigrants Admitted by Region and Country of Last Residence, Fiscal Years 1989 – 2004

Region and country of birth	1991 - 2000	2000	2001	2002	2003	2004
Europe	1,359,737	132,480	177,833	177,652	102,843	130,151
Asia	2,795,672	265,400	337,566	326,871	236,039	314,489
Africa	354,939	44,731	50,209	56,135	45,640	62,510
Oceania	55,845	5,136	7,253	6,536	5,102	6,929
North America	4,486,885	444,805	473,351	478,777	306,793	407,471
Caribbean	978,787	88,198	96,958	94,240	67,660	81,893
Central America	526,915	66,443	73,063	66,520	53,435	60,299
South America	539,656	56,074	68,279	73,400	54,155	69,177
All countries	9,095,417	849,807	1,064,318	1,063,732	705,827	946,142

Source: U.S. Department of Homeland Security, *2004 Yearbook of Immigration Statistics*, (Washington D.C.: Office of Immigration Statistics, 2006).

*North America includes Canada and Mexico. After 1996, regions of origin of legal immigrants were North America and Asia. These regions accounted for 36percent and 28 percent, respectively of all legal immigrants in 2004.

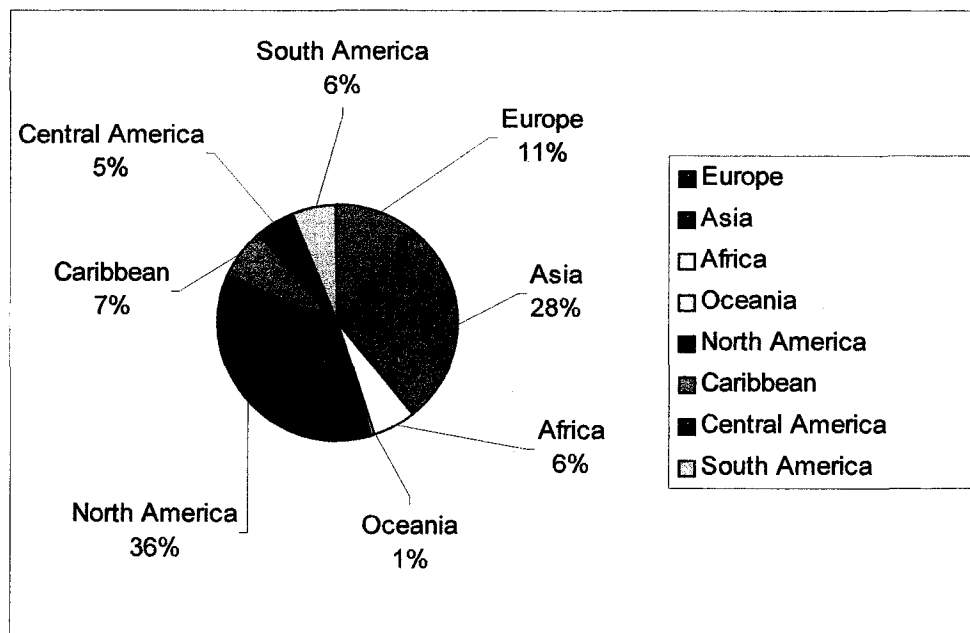


Figure 11. Immigrants Admitted by Region and Country of Last Residence In Percentage in 2004

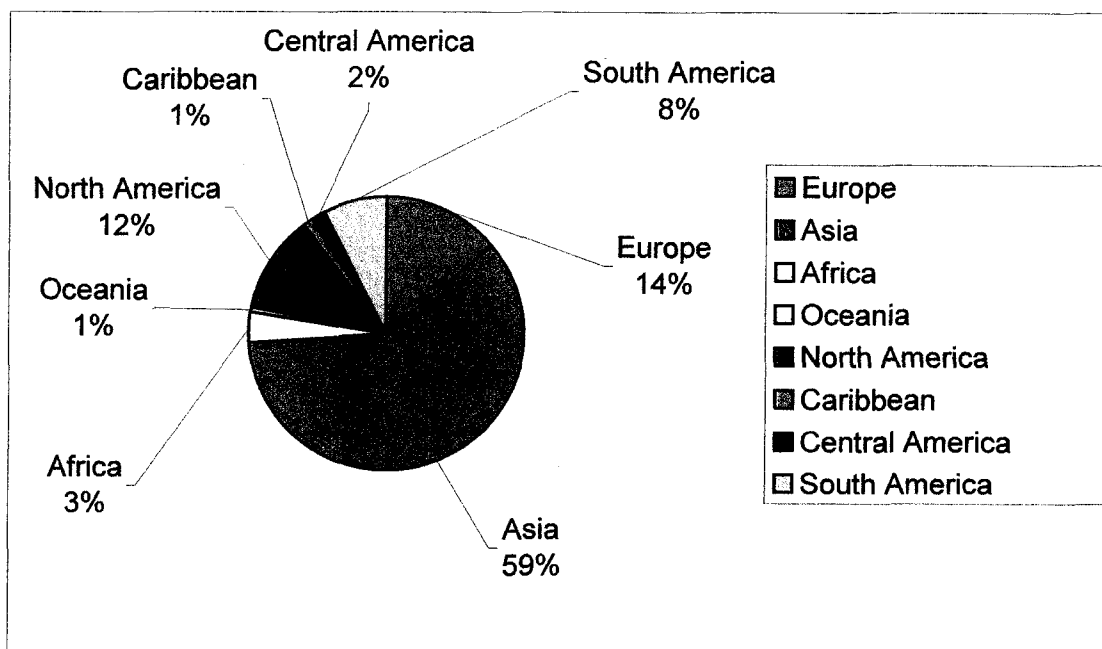


Figure 12: Employment Based Preference per Region for 2004

Source: U.S. Department of Homeland Security, *2004 Yearbook of Immigration Statistics*, (Washington D.C.: Office of Immigration Statistics, 2006).

The need for recruiting skilled workers, especially from Asia can be partly explained as a competitive strategy with the rapid rise of computer industries in the Asia-Pacific region, specially Japan's development of a computer industry beginning with mainframes in the seventies. In addition, with the development of PC-based computer industries in Hong-Kong, Korea, Singapore, and Taiwan in the eighties, United States started facing new challenges in maintaining its leadership in standards, design, marketing, and business innovation, in the computer industry.²⁴ Thus the recruitment of highly skilled Asians, particularly in the computer industry became a visible trend in U.S. Immigration. Since 1992, it has been visible that the employment-based preference system in the United States did favor the 'entry of the highly skilled workers' with a lesser quota being reserved for the unskilled workers and their families.²⁵

The U.S. immigration program gives preferential immigration status to persons with a close family relationship with a U.S. citizen or lawful permanent resident, persons with needed job skills, or persons who qualify as refugees. Other categories usually account for few admissions.²⁶

The 2004 OECD report has also confirmed that the recent strains on the labor market as well as strains on population trends have prompted many OECD countries (including the United States), to relax their policies regarding the recruitment of foreign, and especially skilled workers. This trend, according to the report, was more visible in

²⁴ The authors Jason Dedrick and Kenneth L. Kraemer, *Asia's Computer Challenge: Threat or Opportunity for the United States & the World?* (New York: St. Martin's Press, 1998).

²⁵ The highest preference still goes to Family-sponsored immigrants including immediate relatives of U.S. citizens.

²⁶ An exception can be made in the years 1989-92 when over 2.6 million former illegal aliens gained permanent resident status through the legalization provisions of the Immigration and Reform and Control Act (IRCA) of 1986.

jobs in the information technology and communications sector, as well as in health and education. In Europe, economic crisis have also shaped admission policies with most European countries wanting “highly skilled ‘brain drain’ versus less-skilled and non-worker categories of immigrants.”²⁷ Whereas countries such as Germany and the United Kingdom have introduced programs aimed at attracting computer scientists and doctors, respectively (through a point system program), the United States has aimed at recruiting foreign university professors in addition to the two categories mentioned above. In addition, the United States also targets the entry of people with intermediate-level qualifications, such as computer technicians or secondary level teachers.

TEMPORARY ADMISSIONS (H1 – B) CATEGORY

Temporary admissions into the United States describe the number and characteristics of persons on a temporary basis (non-immigrants). These are usually persons allowed in temporarily under special circumstances, and H1-B workers are those who find temporary entrance to perform services in ‘specialty occupations’. The criteria for selection for these specialty workers itself suggests that it has been designed to pull in or drain the best from the source countries. Criteria such as, ‘must hold a U.S. baccalaureate or higher degree as required by the specialty occupation from an accredited college or university’²⁸ in it has fixed the ceiling for workers with a graduate degree. In addition, the INS determines whether the specialty occupation is a combination of

²⁷ Catherine Withol De Wenden, “Admissions Policies in Europe,” in *International Migration: Prospects and Policies in a Global Market*, eds. Douglas Massey and E. J. Taylor (Oxford: Oxford University Press, 2004), 286.

²⁸ 2004 *Yearbook of Immigration Statistics*, 94.

education, training, and/or experience. This has generally included computer systems analysts and programmers, physicians, professors, engineers, and accountants.

The U.S. nonimmigrant program had been first defined in the Immigration Act of 1819, and the Act of 1855 was the first to require the reporting of “temporary arrivals” separately. The Act of 1924 defined several classes of admission that were expanded in subsequent legislations. ‘Tourists’ and ‘business people’ remain the most numerous nonimmigrant class of admission to the United States. Other categories of admission such as ‘foreign students’ and ‘temporary workers’ have made up a much smaller share of the nonimmigrant total. Although the typical nonimmigrant is a tourist who visits the United States for a few days to several months, there are numerous classes of nonimmigrant admission, ranging from students to ambassadors. The Immigration and Naturalization Service has been responsible for the processing and approving of H1-B petitions that have been submitted by their domestic employers and their representatives on behalf of nonimmigrant workers seeking temporary employment within the United States. These are foreign professionals entering the United States on a temporary basis to work in their fields of expertise. Under the H1-B program, the specialty workers have permission to be employed for as long as three years initially with extensions not exceeding three years. The maximum stay is six years.

The INS has also amended the Immigration Act of 1990 and the American Competitiveness and Workforce Improvement Act of 1998 (ACWIA), regulating H1-B policies as well as guides to H1-B procedures by increasing the annual ceiling of H1-B petitions from 65,000 to 115,000 in fiscal years 1999 and 2000. The enactment of the American Competitiveness in the Twenty First Century Act (AC21) in October 2000 also

raised the limit on petitions in fiscal year 2001 from 107,500 to 195,000 and in fiscal year 2002 from 65,000 to 195,000.²⁹ Thus more than 30 million nonimmigrant admissions have been counted in the Immigration and Naturalization Service's Nonimmigrant Information System during the fiscal year 2004. Usually the collection of an INS Form I - 94, has been the basis of nonimmigrant admission counts. This however, does not take into account people arriving from either Canada or Mexico, who are given separate visas for business or pleasure (B1 and B2 classes).

Table 20 shows the distribution of beneficiaries by country of birth for 2002, 2003, and 2004. 36% of the H-1B petitions approved in fiscal year 2003 were granted to individuals born in India, an increase of 22% over 2002. Beneficiaries from China, the second leading source of H-1B beneficiaries, increased 6% in 2003. "Of the top 20 suppliers, every country increased its number of H-1B beneficiaries except Canada (-600), Pakistan (-261), and Colombia (-195)."³⁰ The share of H-1B workers born in India remained much higher for continuing beneficiaries (45 percent) than for initial beneficiaries (28 percent). In contrast, initial beneficiaries from China outnumbered continuing beneficiaries. For 2004, H1 B beneficiaries from India were 85,536 as the highest followed by the United Kingdom at 32,134. A special report in 2002³¹ provides interesting data with respect to top ten countries that were the primary beneficiaries of temporary admission under H1 B (Table 21), followed by the profile Of H1-B beneficiaries by top 10 Occupations (Table 22), and in the top ten industries (Table 23).

²⁹ *2004 Yearbook of Immigration Statistics*

³⁰ U.S. Department of Homeland Security, *Report on Characteristics of Specialty Occupation Workers (H-1B): Fiscal Year 2002* (Washington D.C.: Office of Immigration Statistics, 2003), 6.

³¹ This report is compiled periodically. The last report exists for 2002.

Table 20. Top 10 Beneficiaries of H1 B for 2002, 2003, and 2004

Country of Birth	2002	2003	2004
Total Numbers of Beneficiaries	197,537	217,340	387,147
India	64,980	79,166	85,536
PRC	18,841	20,063	14,636
Canada	11,760	11,160	24,077
Philippines	9,295	10,454	5,112
UK	7,171	7,599	32,134
Korea	5,941	6,614	9,111
Japan	4,937	5,716	14,322
Taiwan	4,025	4,076	-
Pakistan	3,810	3,549	2,443
Germany	3,291	3,408	14,259
Mexico	3,082	3,407	17,917
France	3,145	3,190	15,447

Source: U.S. Department of Homeland Security, *2004 Yearbook of Immigration Statistics*, (Washington D.C.: Office of Immigration Statistics, 2006).

Table 21. Profile of H1 B Beneficiaries by Top Ten Countries of Birth: 2002

Country	All Beneficiaries	Initial	Continuing	Median Age	Median Income	Bachelor's Degree or higher	Master's degree or higher	Computer-related Occupation
INDIA	64,980	32	68	29	60,000	99	43	73
CHINA	18,841	63	37	32	48,000	100	85	28
CANADA	11,760	67	33	34	70,000	94	39	24
PHILIPPINES	9,295	72	28	32	38,000	99	15	17
UK	7,171	58	42	33	68,000	92	36	17
KOREA	5,941	65	35	34	42,000	98	59	14
JAPAN	4,937	60	40	31	38,000	97	37	9
TAIWAN	4,025	59	41	31	42,000	99	71	24
PAKISTAN	3,810	51	49	31	50,000	99	50	39
COLOMBIA	3,320	71	29	32	38,000	98	29	9
ALL	197,000	52	48	30	53,000	98	48	38

Source: Based on all beneficiaries with known level of income, education, or occupation

* Initial beneficiaries, Continuing beneficiaries, bachelor's degree, Master's degree and computer-related occupation are all taken in percentage

Table 22. Profile of H1 B Beneficiaries By Top Ten Occupations: 2002

Occupation	All Occupations	Initial	Continuing	Leading Country of Birth (percent)
Computer-related	75,114	34	66	India (63)
Architectural, engineering, and surveying	25,197	57	43	India (23)
Administrative specializations	21,103	66	34	India (13)
Education	20,613	68	32	PRC (17)
Medicine and Health	12,920	61	39	India (20)
Managers and officials	10,610	63	37	India (11)
Life sciences	6,910	68	32	PRC (28)
Social Sciences	5,547	67	33	India (13)
Mathematics and physical sciences	5,443	63	37	India (16)
Miscellaneous professional, technical, and managerial	4,940	64	36	PRC (26)
All occupations	197,537	52	48	India (33)

Table 23. Profile Of H1-B Beneficiaries by Top 10 Industries, Fiscal-Year 2002

Industry	All Industries	Initial	Continuing	Leading Country of Birth (percent)
Computer-related	50,776	33	67	India (68)
College, Universities and professional Colleges	18,401	65	35	PRC (26)
Architectural, engineering	8,963	60	40	India (21)
Management, Scientific and Technical consulting	7,458	55	45	India (39)
Scientific Research and Development	6,695	63	37	PRC (24)
Telecommunications	4,357	41	59	India (38)
Elementary and Secondary Schools	3,983	76	24	India (18)
Accounting, Tax preparation, book-keeping, payroll	3,507	62	38	India (16)
General Medical and Surgical hospitals	3,442	58	42	India (24)
Securities and commodity contracts	2,917	54	46	India (21)
All industries	197,537	52	48	India (34)

Based on data from tables 21, 22, and 23, some broad conclusions can be drawn regarding *characteristics* of the H1-B temporary workers, for the year 2002. The typical H1-B beneficiary was: born in India; 30 years old; holding a bachelor's degree; working in a computer-related occupation; and receiving an annual income of \$53,000. In addition, twenty-four percent of all beneficiaries were born in India, had either a bachelor's or master's degree, and were employed in a computer-related occupation. Interestingly, the corresponding percentages in the fiscal year 2001 were forty one percent before the September 11 attacks on the United States. Also, the beneficiaries continuing in H1-B status were one year older and earned \$ 15,000 more annually than the typical initial beneficiaries.

Looking at India specifically, it becomes clear that India features big in the H1-B category. They not only represent themselves as the largest beneficiary country at 64,980 with China a distant second at 18,841, but also as the youngest beneficiaries with a median age of 29. Median income for India stands third with \$60,000 with Canada first at \$70,000 and United Kingdom second with \$68,000 as their median incomes respectively. Additionally, seventy-three percent of all beneficiaries born in India had a computer-related occupation, thirty-eight percent for all countries and without India, the percentage of beneficiaries employed in computer-related occupations drops to 14 percent.

In terms of occupation, besides computer-related occupations, India-born beneficiaries held the lead in other numerically significant occupations: architecture, engineering and surveying (23 percent); administrative specializations (13 percent); medicine and health (20 percent); managers and officials not elsewhere classified (11

percent); social sciences (13 percent); and miscellaneous professionals, technical, and managerial (14 percent).

All the above analysis and data indicates that immigration into the United States from India is not only significant but also that the flock of people coming in are young with a median age of 29 and education levels that are by far much higher than the local people. In terms of numbers of specialty workers H1-B dominate the top ten occupations and the top ten industries in the United States. This has huge implications when talking about brain drain as India is definitely losing this part of its population to the United States.

The characteristics of temporary admissions of aliens should not normally affect the discussion on brain drain as the duration itself suggests a temporary situation and return to the home country, not exceeding more than six years. In fact, many sending countries see this as extremely beneficial, as many of their labor further their skills and technological know-how in the receiving countries, and then return to apply this in the home country. However, the discussion swings right back to brain drain as the intention of non-return becomes prominent. This is usually done through petitions where an H-1B alien can be the beneficiary of an immigrant visa petition and apply for adjustment of status, or take other steps toward lawful permanent resident status without affecting H-1B. For example, of the 1.1 million people granted permanent status between 2001 and 2002, 384,000 were new arrivals and 679,000 were people already in the United States who adjusted their status from temporary to permanent. “This is known as “dual intent”

and has been recognized in the immigration law since passage of the Immigration Act of 1990.”³²

TEMPORARY ADMISSIONS (F1) STUDENT CATEGORY

Besides the need for skilled workers, the flow of scholars from one country to another – particularly from developing to developed countries, forms the other component of brain drain. Holding the ‘F1’ visa status in the United States, the current number in 2004 is 613,221 down from previous years with 688, 970 (2001), 637,954 (2002), and 617,556 (2003).³³ This can be largely attributed to the attacks on September 11, 2001 after which nonimmigrant entry under the F1 category went down.

Students present the most difficult part of measuring and defining the brain drain. First, is the problem of students intending to return vis-à-vis becoming permanent immigrants. Second, with the departure of many students, population pressures are relieved at home, making brain drain positive.³⁴ Third, a student’s studies abroad and his failure to return home does not imply that his native country’s stock of educated people is reduced by one; rather that the stock of uneducated people is reduced, since the emigrant’s vacant place is taken by another. And fourth, and most important, brain drain literature fails to take into account when and where their education have been developed. Most students coming to the United States earn their master’s, doctorate, and post-doctorate education here. Since “education and training are the most important

³² USCIS, *U.S. Citizenship and Immigration Services*, (January 2006). Available [Online]: <<http://uscis.gov/graphics/howdoi/h1b.htm>> [7 November 2005].

³³ All data taken from: *2004 Yearbook of Immigration Statistics*.

³⁴ See Charles Kao, “Brain Drain or Overflow: the Case of Taiwan,” *International Development Review* 12, number 2, (June 1970): 40-41.

investments in human capital”³⁵ previous discourses in associating brain drain with human capital deserves reconsideration.

During the period from 1961 to 1980, more than 500,000 scholars from the developing countries moved to United States, Great Britain, and Canada. Comparatively, Eastern European brain drain is a very recent phenomenon. For many decades, brain drain had been largely unknown to the former Soviet Union and existed as a thin stream in a relatively weak current of ethnic emigration involving mainly Jews and Germans. Emigration itself had been either ignored or regarded by the society as a phenomenon incompatible with the socialist system or even as high treason. The state of brain drain of students reached a crisis level due to the liberalization of immigration laws in the developed countries. “It costs U.S.\$2.5 - 5 billion in annual potential loss to Russia only. Between 1981 and 1991, 50,000 high-skill specialists left Bulgaria. While Hungary has lost 15 percent of its scientists and specialists, Poland lost 10 percent of its total scientific personnel.”³⁶

The United States is considered as the principal destination (also Canada and Australia) of the ‘drained’, highly trained people from the third world countries. One of the primary reasons that the receiving countries show interest in the mobility of PhDs is that these people are considered as potentially the “most effective change agents.”³⁷ These highly trained people are seen as agents in a developed economy with ample

³⁵ See Gary Becker, *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education*, 3rd edition. (Chicago and London: The University of Chicago Press, 1993), 17.

³⁶ Dantew Teferra, *Revisiting the Doctrine of Human Capital Mobility in the Information Age*.

³⁷ National Research Council, *Mobility of PhDs: Before and After the Doctorate* (Washington D.C.: National Academy of Sciences, 1971), 1.

capital to introduce new technology that would reap the benefits of a system with higher education contributing to it as a supply pool of trainers, teachers and researchers.

The Asian student population in the United States grew by more than 8 % over a period of 15 years from 1974/75 to 1991/92, which is indicative of the growth of the pool of potential stay-ons. The nearly 30,000 Asians who settled in Canada during this period made up 52 % of all highly educated labor from the third world to that country, and the 65,000 in the United States comprised 72 % of flow to that country. Between 1972 and 1985, approximately one fifth of a million Asians with training in the science-based professions entered the United States from the four major sending countries of India, South Korea, China, and Philippines. Some estimates determine, the cost to India at \$144 million with the loss of 15,000 medical doctors in 1980 to the United States. The Chinese Communist revolution of 1949 and the incident in Tiananmen Square in 1989 also resulted in increase immigration measures into the U.S., stimulating brain drain from China. Other source countries include Hong Kong, Formosa, Japan, and Korea.

The issue of brains and level of education attained is usually associated with the number of PhD degrees that a country is able to produce. The usual assumption with PhD's is that they represent the very best brains in the country. Thus implicit in most studies on the international flow of people with high levels of training is the belief that having a doctorate represents a highly important segment of the brains of the countries involved. Some writers have been careful to note the difference between those who have had advanced training before coming to the United States and those who attain their education in the United States. Bayer,³⁸ for example has used the terms "trained brain

³⁸ Alan E. Bayer, "The Effect of International Interchange on High-Level Manpower on the United States," *Social Forces* 46 number 4 (June, 1968).

drain (or gain)” and “untrained brain drain (or gain)” to maintain this distinction.

However it should be remembered that irrespective of the titles, PhDs represent only a minor fraction of the people at the highest level of ability. The vast majority of people with brains are, many times, not PhDs, as they prefer to terminate their education earlier. At the same time, it is assumed that the education phase is distinct from the rest of life and especially from professional time. Thus, the presence of students in a foreign country is counted as part of brain drain, ignoring when and where their skills and education were further developed.

Immigration and the Case for Brain Gain

The term “brain drain” was first popularized in the 1950s with reference to the immigration to the United States of first-rank scientists from countries such as the United Kingdom, Canada, and the former Soviet Union; it is now used in a more general sense to designate the international transfer of human capital (people with higher education) from developing to developed countries. Since the mid-1970s, there was a great deal of passion around this issue when everybody took for granted that the emigration of highly skilled people was detrimental to the country of origin. A number of prestigious academic economists were part of this consensus, notably Jagdish Bhagwati and his followers, who delivered more or less the following message: “1) the brain drain is basically a negative externality imposed on those left behind; 2) it amounts to a zero-sum game, with the rich countries getting richer and the poor countries getting poorer; and, 3) at a policy level, the international community should implement a mechanism whereby international transfers

could compensate the sending countries; for example, through a “tax on brains” to be redistributed internationally.”³⁹

For a long period of time, immigration and immigration laws have been viewed negatively by sending countries, since it represents a much-calculated attempt to drain the LDCs of their trained, and educated manpower. Since the development of human resources is seen as vital in the development process, investments in education are primarily seen as a simple solution to the problem of promoting economic growth and consequently the migration of this manpower as a cause for concern.

However, economic benefits through study and work abroad, have given way to a more pragmatic view of the immigration and its laws. The education required to train the highly educated is not bound by particular locations in practice therefore the development of human capital is linked to advanced economies with built-in social and research centers. These usually flow from three kinds of advantages: “(1) industrialized economies have an intensified division of labor conducive to specialized research and development; (2) the establishment of an excellent research environment with the most modern equipment, permitting more concentrated research; and (3) massive state support for research and development.”⁴⁰

Studying in advanced economies provides the most direct form of global articulation of higher education. Having many historical precedents, it represents a cost-effective way for the LDCs to acquire and disseminate knowledge either through return

³⁹ Hillel Rapoport, *Who is Afraid of the Brain Drain? Human Capital Flight and Growth in Developing Countries* (Stanford: Stanford Institute for Economic Policy Research, 2002), 1.

⁴⁰ Paul M. Ong, Lucie Cheng, and Leslie Evans, “Migration of Highly Educated Asians and Global Dynamics,” *Asian and Pacific Migration Journal* 1 number 3-4 (1992): 551.

or networks. History⁴¹ shows that backward nations can catch up with leading nations through the development of institutions of higher education. Today, developing countries pursue a similar path and take advantage of their technological backwardness by bypassing the enormous cost and risk in initially producing the technology. Thus, highly educated manpower may provide the much needed skills used by nations at home in the development process.

The following statement by the Organization for Economic Cooperation and Development (OECD) is typical of the current international attitude:

It is necessary that study abroad should be used as an integral part of the strategy of the advanced countries in extending help to the newly developing countries for the growth of their human resources.⁴²

The positive evaluation of immigration is confirmed by the so-called growth theories that evaluate very positively the additional availability ‘imported manpower’. It argues that an inflow of human capital produces positive externalities that spill over to other sectors and regions. Thus brain drain induces positive feedback effects such as remittances, return, and transfer of technology through networks and undermines the strongly negative view of immigration and brain drain. Described as an “optimal brain drain theory”, it promotes the simple idea that one should also look at *how* a given stock of human capital is built up.

⁴¹ The development of centers of higher learning in the engineering fields helped Germany and Sweden to industrialize rapidly in the 19th C and catch up with Great Britain. Japan, before and after World War II period followed a similar path, emerging from backwardness to advanced status based on a sound knowledge base.

⁴² OECD. *Policy Conference on Economic Growth and Investment in Education, V: International Flows of Students* (Paris: Directorate of Scientific Affairs, 1962), 5.

THE FUTURE OF IMMIGRATION LAWS AND BRAIN DRAIN

Receiving societies, both historically and contemporarily welcome global citizens who contribute most to their economy. For a long time, there has been a general awareness of the various benefits to the US population by capturing the mobile, skilled foreign professionals. The reasoning behind this statement lies in the assumption that individuals increase or at least do not decrease the per capita income of the receiving societies. Empirical evidence proves that immigration, being selective through a set of laws and regulations, prefers legal migrants with a definitive skill set.

It is difficult to predict the future of immigration of the highly skilled manpower to the United States. At best, current data and facts suggest that there is little likelihood of it going down in future. The United States has been extremely pragmatic and has rolled out red carpets to immigrants with specific skills, especially after the immigration law in 1965. The fact that Asian immigration has increased almost tenfold between 1965 and 1990, suggests that legislative policies within the United States will support this trend.

Unquestionably, the events of September 11th have reshaped the debate over immigration in general. However, since there is no way of predicting the one-time factors such as terrorist attacks, wars, revolutions and natural disasters, this has little or no impact on migration patterns, on the whole. Immigration through family reunifications and the employment based categories, constituting the family component of U.S. immigration remains dominant, assuring a high degree of stability in immigration to the United States.

Immigration tradition in the United States has generally welcomed global citizens who can be considered as human capital, as they bring benefits to the US economy.

“Foreign students contribute over \$7 billion to the US economy. Almost half of all the PhD recipients in the United States in any year are now foreigners.”⁴³ The absorption of human capital in host societies is thus seen as gain with transfer of knowledge acquiring primary importance.

CONCLUSION

The migration of the highly skilled individuals from the rest of the world to the United States, often termed as ‘brain drain’ has put policymakers on all sides in great dilemma. On the one hand the United States has remained morally and politically committed to assist the development of the poorer regions of the world and on the other, the United States has considered it to be in its national interest to restrict general immigration and make it selective through a set of laws and regulations that have historically favored individuals with high level of training, education and skills.

In recent years countries throughout the world have awakened to this brain drain phenomenon to the United States and have generated policy discussion and debates at all levels. The United States congress, the United Nations, the Pan American Health Organization, and the organization for Economic Cooperation and Development (OECD) have all discussed the magnitude of this issue through studies and conferences. Asian immigration to the United States has been most dramatic after 1965 Immigration and Naturalization Act with top sending countries comprising China, India and the Philippines. The recruitment of skilled labor, both permanent and temporary (H1-B) and

⁴³ Thomas Straubhaar, *International Mobility of the Highly Skilled: Brain Gain, Brain Drain or Brain Exchange* (Hamburg: Hamburg Institute of International Economics, 2000), 8-9.

highly educated manpower point towards the admittance of people with special skills and educational attainments in key occupations and industries.

However, while analyzing the brain drain phenomena there arises a conceptual problem that needs to be addressed. Most developing and highly populated countries, such as India, have in fact welcomed the general emigration of their citizens, as it relieves pressures on both population and resources. The problem has arisen as to where does one draw a line between immigrants whose departure has been welcomed by their native countries and those who have actively contributed to an undesirable drain.

Students, more than any other category of immigrants have been cited as cutoff point in defining brain drainers. However, students too present a special problem of measurement and definition. To begin with, many graduate students, postdoctoral fellows, and established professionals come to the United States with immigrants' visas although they plan to return home after their period of training. On the other hand, many arrive with permanent immigration as their ultimate goal. Furthermore, from the point of view of the sending country, at the time that the student left abroad for higher studies has to be considered as 'unskilled' and also as relieving the country of population pressures. Both these points point to neither 'brain' nor 'drain' of the home country. Thus the answer to this broad question depends to a large extent on the definition of loss and gain in a holistic sense for the home country. It also demands viewing the immigration laws in the receiving countries (although representing brain drain) in a more positive light.

In recent years, possible connections between Indian Diaspora and their country of origin have received increasing attention. Many scholars have talked about the possibility of developing the human-led-growth of 'human capital' in the country of

origin through increased return migrations or remote mobilization of resources, the Diaspora option. Popularly termed as second-generation effects of brain drain, the subsequent chapters look at the place of Indian immigrants in the United States economy and labor market in terms of employment, occupation, income, and educational attainment and their connections to their home countries.

CHAPTER V
 INDIAN DIASPORA AND BRAIN GAIN: REMITTANCES, RETURN AND
 NETWORK APPROACHES

*“No Gold did they find
 Underneath any stone they
 Touched and turned
 Yet
 Every stone they touched
 Into solid gold they turned.”*

-Vishwamitra Ganga Aashutosh, Mauritian Poet.

INTRODUCTION

The migration of skilled human capital from developing countries such as India to developed countries such as the United States, has incurred increasing interest among both receiving and sending countries with respect to the benefits that can come out of this migration of people. The early 1970s was rife with discussions of brain drain and how this could potentially be checked and converted into benefits for the home country.¹ While the research on the structural aspects² of the Indian Diaspora continues with vigor, in recent decades, efforts to reverse some of the costs associated with brain drain has captured the imagination of many scholars. Three questions in particular have begun to engage the attention of both the social scientists and the policy makers alike: (a) what has the Indian state done for the Indian communities in various parts of the world; (b) what

¹ Discussed in detail in chapter II during literature review

² Structural dimensions such as gender in Indian Diaspora, caste in Indian Diaspora, regional identities in Indian Diaspora, including Punjabi Diaspora or Gujarati Diaspora, etc., and the issue of racial discrimination.

has the Indian Diaspora done for or against the Indian state; and (c) what should the Indian state do to cultivate and harness the Indian Diaspora as a resource for Indian development. For the first question, the Government of India, following the express directions of the Prime Minister, had recently established a 'High Level Committee' under the chairmanship of Dr. L.M Singhvi, Member of Parliament (MP), with the mandate to make an in-depth study of the problems and difficulties, the hopes and expectations of the overseas Indian communities.³ The second question will be examined in this chapter through brain gain strategies and chapter VII answers some critical questions with respect to the role sending countries can play in harnessing the potential of their Diaspora communities.

This chapter examines the available empirical evidence about 'brain gain' to India as a result of 'brain drain' of knowledge workers to the United States and examines the first hypothesis in this dissertation: *Diasporic communities can become agents of development for their home countries by direct benefits that will outweigh the costs.*

The chapter is structured as follows. It begins with an evaluation of some of the costs that are incurred in the sending country, with the out-migration of its students and professionals'. Then, it explores some of the benefits that come out of this drain. These benefits are usually measured as remittances, investments with return, and network approaches. This is done through: (a) analyzing the effect of remittances on India's economy, in a balance of payment framework; (b) by quantifying the magnitude of the return of human capital and their investments in various sectors of the Indian economy; and (c) by attempting to highlight the importance of networks in the transfer and

³ Given the great diversity and global spread of the Indian Diaspora, This has proven a mammoth task. The Committee, with the active cooperation of NRIs and PIOs, has submitted the Report to the Prime Minister on 08th January 2002.

dissemination of knowledge, in fields such as health and education. The chapter ends with important implications for the relationship between migration and economic development. In an emerging global scenario where the immediate future is viewed as the 'age of migration', it is imperative that attempts are made, especially in a leading labor exporting country like India, to examine the implications of the contemporary migration flows so as to evolve a more purposeful migration policy framework aimed at the maximization and socialization of benefits from migration in the wider context of economic development.

Primarily, this chapter addresses some serious questions with respect to the migration of highly skilled labor, especially in the information technology (IT) sector. Since Indians form a substantial portion of foreign-born workers in the United States, and a significant share return to their countries of origin, this study justifies some of these findings for India. It also attempts to put into perspective the role-played by the sending country in cultivating the Diaspora through policies and awards. Finally, it begs a redefinition of the terms benefit and loss, and a reconsideration of the oft-repeated phenomenon of brain drain.

Before evaluating some of the benefits, let us briefly examine the costs that India incurs with the migration of its students and professionals.

BRAIN DRAIN AND COST

Brain drain has been associated with 'underdevelopment' in sociological term and 'cost' in the economic term since educational levels, to a large extent, determine why some countries are rich while others are poor. With the highly educated people leaving

the country it is generally assumed that the nation incurs substantial losses in the money it put in the training of the individual. And with an increasing number of scientists, engineers, physicians, and other professionals from developing countries leaving to work in Canada, the United States, and Western Europe, 'brain drain' becomes a contentious issue in the North-South debate. Not only is the pool of skilled workers in the receiving country better educated and therefore contributing more to the host economy than the native worker but is also endorsing the fact that, by investing in education in a developing country may not lead to faster economic growth. Thus any discussion linking brain drain to underdevelopment needs to first ask how extensive is this brain drain and second, how can this lost human capital be utilized to augment development in the sending country. The first question examining 'extent' usually depends on the magnitude of the flow and on the international focus it receives.

Emigration from India is traditionally seen as a cost that it incurs when it loses some of its most valuable people. The thousands of dollars spent on educating a doctor or an engineer disappears when they take their skills abroad. A 'United Nations Development Program' (UNDP) report estimates that India loses \$2 billion a year in resources, because of the emigration of computer professionals to the U.S. alone. "The Human Development Report in 2001 also mentions that about 100,000 Indians are expected to emigrate each year, and that the average total cost to India of educating each one of them is anywhere between \$15,000 and \$20,000."⁴

Although unequal standings make it difficult for LDCs like India to invest in higher education, either locally or for overseas studies, the Indian government does spend

⁴ HDI, *Brain drain costs developing countries billions*, (July 2001). Available [Online]:<www.cnn.com>[23 June 2005].

vast amounts of money in some of its premier educational institutions. The Indian Institutions of Technology (IITs) established in the 1950's and 1960's with foreign assistance not only represent educational institutions with highly educated students, but also valuable in terms of their possible contribution to the Indian economy.⁵ The first IIT in Kharagpur (in the eastern part of India) was established with help from UNESCO because of its proximity to India's industrial belt.⁶ IIT Kanpur (in the Western part of India) was set up with US help, IIT Delhi (North) and Chennai (South) were established in the 1960's with British and German aid respectively. Despite the conspicuous 'foreign hand' in the establishment of the IITs, the idea behind this was mainly to serve national indigenous needs. The departure of these 'brains' to the developed world represents huge losses to the nation as a whole.

Empirical evidence does suggest that not all IIT graduates go abroad. Of all graduates, only one-third migrates abroad and about two-thirds remain in India to serve the country. Also, those who stay back work for good multinationals like Hindustan Lever⁷, other multinational banks, or get absorbed by IT industries with companies such as Infosys, that supplies cheap off-shore labor to foreign companies. The problem however, is that the top quarter of all IIT graduates in fields such as computer science and electrical engineering leave India, leading many scholars to believe that although it

⁵ Chidanand Rajghatta, *The Horse that flew: How India's Silicon Gurus Spread Their Wings* (New Delhi: Harper Collins, 2001). Rajghatta's book offers interesting information on the role IIT plays for all three: IITians, India and the World. The chapter is also aptly titled as "The Tech High Five: IITians take on the World."

⁶ Kharagpur is geographically close to cities such as Jamshedpur (India's Iron and Coal industry), Sindri (fertilizers), Dhanbad (Iron Ore industries), and Bokaro (SAIL: Steel Authority of India Limited.)

⁷ Hindustan Lever Limited, 51.6% subsidiary of Unilever Plc, is the largest FMCG company in the country, with a turnover of Rs118bn. The company's business sprawls from personal and household care products to foods, beverages and specialty chemicals.

constitutes only one-third, it is also the costliest. Besides, when Nehru had first envisioned the dream of a powerful and developed India, enriching the global economy had not been his original intent behind setting up the IITs. When he inaugurated the IIT in Kharagpur⁸, his dream was very different: to establish first-rate engineering schools that would aid India's development. Nehru had wanted Indians to cultivate a scientific temper, and the IITs were seen as a means that would produce that end. Essentially he had wanted his skilled engineers to, "build what he called the temples of modern India -- its dams and power stations, its petrochemical industries and heavy engineering plants."⁹

Critics in India, blame the Indian government for having hyped the IIT and diverting generous resources to it at the cost of primary education. In fact, many scholars and politicians have raised questions about the 'subsidized fees at the IITs'. The fees at the institute had remained highly subsidized up to 1991 when the annual tuition had been fairly low, at 250 rupees per annum (\$10 at the 1991 exchange rate, and \$5 at today's). Although the tuition at the IIT has now risen to 22,000 rupees (\$440) a year, it does not compare with the tuition at elite American engineering schools, that are 40-50 times higher. The question remains that if India subsidizes such high-quality education, and if nearly half the graduates leave India, never to return, is India getting a good return in its investment in people?

Another cost is the so-called option of 'return'. Despite the patriotic rhetoric of patriotism and as claimed by an IITian himself, "most IITians *do not come back to India*. They talk about it but as they get married and have children and get settled in their

⁸ the first IIT in India was established in the Kharagpur In the State of West Bengal.

⁹ Salil Tripathi, "India's High Tech Bounty." *Wall Street Journal*, 16 April 2003.

careers, their return becomes highly unlikely.”¹⁰ Over the last 50 years, some 25,000 IIT alumni have made their home in the United States, not in India. Perhaps the saving grace comes from the fact that these IITians have burnished India’s reputation as a country that produces highly skilled manpower. Not only do these alumni become CEOs of the world’s leading corporations, but also enhance India’s image as a leading investment site.

One of the most frequently asserted explanations for the high rate of out-migration of professionals is the imbalance between education and employment. It is important to recognize that over-expansion of higher education is partially responsible for the decision to emigrate. Thus, even though the demand for higher education may be high, if the economy is not able to absorb the number of graduates, especially in highly populated countries like India, then out-migration is seen as a logical consequence. As Usha Nayar argues,

“The number of graduates in science and technology produced by Indian universities is fewer than the number of graduates that American universities turn out every year. But the American economy needs even more highly skilled persons, whereas the Indian economy cannot absorb even the small number of graduates from Indian universities.”¹¹

The other factor that contributes to emigration of professionals from India is the lack of development in certain branches of knowledge. In recent times, the Indian government has invested in ‘Higher Education Institutions (HEIs)’, not only because the service sector is important but also because it is an important source of qualified manpower for the job markets, in a knowledge-based economy. Statistically speaking,

¹⁰ Kamal Sinha, *Brain Drain and IIT*. Available [Online]:<<http://www.kamalsinha.com/iit/brain-drain.html>>[19 March 2006].

¹¹ Usha Nayar, *Brain Drain: The Phenomenon and its Causes* (New Delhi: Sage Publications, 1985), 1-13.

“India has a huge and diverse system of higher education and large R & D Lab system (particularly in the Govt. Sector) with 310 university level institutions, 15,000 colleges, and 400 national laboratories.”¹² This has helped in the growth of scientific and technological culture and creation of a vast pool of science & technology manpower. However, in spite of these positive developments, the impact of these institutions in the creation of new enterprises has been rather limited. The University Grants Commission (UGC) in India acknowledges that India has a long way to go to promote entrepreneurship through their institutions of higher learning.

Other factors that contribute towards out-migration are better working conditions, financial incentives, and other material benefits in the Western countries. Better facilities for research, better equipment, and infrastructure encourage not only migration but also permanent settlement in foreign countries. Many complaints are made about working conditions in India, particularly in the government sector. Most of the dissatisfaction arises with excessive bureaucratic hurdles that scientists and technicians have to go through. Others have attributed the non-return with the lower levels of income as compared to what they would have earned in the United States.

The question then arises as what do we define as the word ‘cost’ and how can we explain this if the United States trained IIT graduates invest billions of dollars as remittances in India. Cost, in this sense is incurred by the United States that invests large amounts of money in training these foreign nationals in their universities or jobs. Again,

¹² University Grants Commission, *Promotion of Knowledge Based Enterprises through Institutions of Higher Learning - A Concept Note*. Available [Online]:<http://www.ugc.ac.in/new_initiatives/kbe.html>[10 November 2005].

the biggest problem that remains are how should one measure costs and benefits since *it is not easy to quantify the benefits but it is very easy to quantify the costs.*

While many policy makers in India have been in a panic about the ‘brain drain’ – the departure of skilled professionals for more lucrative jobs and opportunities abroad – recent studies have triggered many debates on whether ‘brain drain’ can be converted into a ‘brain gain’ for India. Almost all of the brain drain literature, coming from a nationalist perspective, talks about economic losses to the sending countries. As an alternative, ‘brain gain’ approaches look at how migration of professionals can eventually benefit the sending country. These have been identified as (1) remittances and savings; (2) return migrations; and (3) Diaspora networks. Networks in the field of IT have created transnational circuit of professionals that serve as linkages between IT hubs in India (Bangalore) and the United States (Silicon Valley). In addition, the Indian Diaspora has been actively involved in philanthropic activities, through charities and grants. Networking with various state governments and in different sectors will also be identified.

REMITTANCES

Remittances to India have been growing rapidly since 1991, making it one of the largest recipients of remittances by quadrupling between 1991 and 2003 and totaled about US\$18 billion by 2003.¹³ In terms of percentage of GDP, remittances equaled about 3 percent in 2003. Although money returns to the sending country in various forms, it is

¹³ The two main sources of data on private transfers to India are the Reserve Bank of India’s databases—*Handbook of Indian Economy* and *RBI Bulletins*, in addition to the IMF’s *Balance of Payments Statistics* (BOPS). The RBI’s data on private transfers are available for the period 1990–2003, and the IMF’s data are available for 1975–2002

Diaspora remittances¹⁴ that have been the center of attention in recent times. Since migrant remittances and savings represent one of the most direct and measurable benefits of international migration in migrant-sending areas, they represent both direct, and indirect contributions to incomes in remittance-receiving households.

In the mid-1970s, there was a rapid increase of remittances from the Indian Diaspora from both the Middle East as well as from the industrialized countries (North America, Western Europe, Britain, and Australia). Continuing well into the 1980s, “remittances equaled 25 percent of export earnings and were enough to finance one-sixth, i.e., 16-17 percent of India’s import bill.”¹⁵ Remittances from North America (dollar area comprising the U.S., Canada, Central American and a few Latin American countries) were the second source of remittances after the Middle East (oil-exporting Persian Gulf countries) with rising shares over time. Table 24 compares the size of remittances with select macroeconomic aggregates from regions of origin and balance of payment components from 1971 to 1996. Although these were small measures, they were by no means insignificant and were large enough to play a crucial role in India’s balance of payments.

In recent years, NRI¹⁶ remittances to India have played an extremely important role in India’s economic development at the micro-economic level. NRI deposits have helped India in averting its balance of payment crisis, carrying developmental work, and servicing international debt. For example, NRIs in the Gulf countries, as a group, bailed

¹⁴ Remittances (also known as current transfers) include worker’s remittances and other private transfers on current account.

¹⁵ See Binod Khadria, 141.

¹⁶ See Appendix A for an explanation of terminologies such as NRIs and PIOs.

out India during the economic crisis in 1990-91 by providing 75 percent of the amount collected. Even today, NRIs in the Gulf region contribute the most with almost \$10 billion dollars annually.

The increase in remittances has been somewhat sharper to India than to many other countries (Figure 13). In 2002, India accounted for about 10 % of total remittances to developing countries, and about 25 % of total remittances to Asian countries. India, a country that did not even feature in the top ten remittance recipient countries in 1990 became the world's largest recipient of remittance inflows in 2003-2004, rising to over US\$17 billion in 2003 (Table 25), up from almost US\$14 billion in 2002, and over US\$ 11 billion in 2001. In 2004, a "strong growth in remittances and services contributed to a current account surplus of 1.7 % of GDP"¹⁷ irrespective of higher oil prices.

On a comparative note, India and China, two countries with the largest global migrations, report substantial differences in remittance figures. While remittances into China were about one-eighth those to India between 1992 and 2001, foreign direct investment (FDI) from overseas Chinese communities was ten to twenty times more than FDI from the Indian Diaspora. According to World Bank statistics, Indian workers' remittances have soared considerably over the years to touch \$23 billion in 2004 (1.7% of GDP). Interestingly, at the exchange rate that prevailed in 2003, the inward remittances amounted to about Rupees 84,000 crore, which was more than double the amount that government collected as income tax during the financial year.¹⁸

¹⁷ International Monetary Fund, *IMF Executive Board Concludes 2004 Article IV Consultation with India, Country Report No. 05/86* (Washington D.C.: IMF), 2.

¹⁸ The actual remittances may be much higher as flows through informal channels, such as hawala, are not captured in the official statistics but are believed to be quite large, the report points out.

Table 24. Remittances to India by Regions of Origin, 1971-1996
(In Rupees Millions)¹

Year	North America	Western Europe	Britain and Australia	Middle East	Other Developing Countries	Total Remittances
1970 – 71	284	114	223	37	147	805
1975 – 76	1105	502	620	1316	694	4237
1980 – 81	2100	1684	2548	12194	2771	21297
1985 – 86	4803	2578	3224	13884	2665	27155
1990 – 91	8645	4633	4844	14499	3639	36260
1995 – 96	86385	28561	33617	117961	21086	287610

Source: Binod Khadria, *The Migration of Knowledge Workers: Second-Generation Effects of India's Brain Drain* (New Delhi: Sage Publications, 2000), 143.

Table 25. Remittances by Country: 2003
(In US \$ billion)

Countries receiving the most remittances, 2003 (US\$ billion)	
India	17.4
Mexico	14.6
Philippines	7.9
China	4.6
Pakistan	4.0
Morocco	3.6
Bangladesh	3.2

Source: World Bank

¹ Source RBI report on Currency and Finance, cited in Nayyar 1994

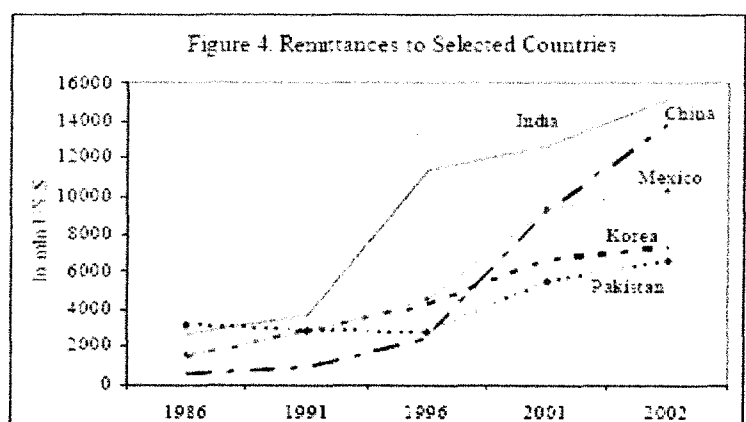


Figure 13. Remittances to Selected Countries

Source: IMF's *Balance of Payments Statistics*.

Available[Online]: <<http://www.imf.org/external/np/sta/bop/bopman5.htm>> [30 April 2006].

	Family Maintenance	Gifts and Donations	Reparation of Savings	Gold and Silver	Local Redemptions of NRRR deposits	Other	Total Transfers - RBI data	Worker's Remittances - IMF data	Other Transfers - IMF	Total Remittances - IMF data
1989-1990	720	105	1,161	0	0	11	2,297	2,291	0	2,291
1990-1991	626	117	1,027	0	0	14	2,084	2,092	0	2,092
1991-1992	702	344	2,738	0	0	13	3,797	3,792	0	3,792
1992-1993	730	445	1,604	1,076	0	9	3,864	3,040	1,181	4,230
1993-1994	514	338	2,241	1,670	0	24	5,287	3,617	1,670	5,287
1994-1995	1,727	587	3,665	2,190	0	53	8,112	6,013	2,100	8,113
1995-1996	1,003	1,339	4,198	1,943	0	37	8,540	6,388	1,948	8,336
1996-1997	2,318	726	1,935	2,718	3,427	1,111	12,435	9,719	2,716	12,435
1997-1998	5,232	526		2,699	3,418		11,875	9,178	2,699	11,878
1998-1999	7,661	350		171	1,859		10,341	10,012	331	10,343
1999-2000	7,423	734		13	4,120		12,290	10,151	2,237	12,388

Figure 14. Different components of the Remittances Data in the RBI and IMF

Source: RBI Bulletins, and the IMF BOPs.

An IMF working paper by Poonam Gupta¹⁹, suggests a strong correlation between the increase in the number of migrants to countries such as the United States, Australia, and Canada, in particular the number of Indian migrants to the United States that doubled during the 1990s, and the buoyancy of remittances that has been instrumental in substantially reducing the current account deficit in the past few years. She attributes the migration during this period as consisting of more skilled people and professionals, accompanied by sharp increases in the average earning of the migrants as the primary cause of increased remittances. Other factors that may have contributed to increased remittances include: (a) informal channels of money transfers proving less attractive by the exchange rate devaluations of the early 1990s; (b) opening up of the capital account; (c) reduction in duty on the import of gold; and (d) the illegal import of gold becoming less remunerative. All of these reasons result in remittances being channeled more through the official routes. Figure 14 provides data on the different components of the remittances in the RBI and IMF databases (In millions of U.S. dollars) for the years 1990 to 2000.

In the literature on international migration, several issues related to remittances have been studied, such as estimating the impact of migration on domestic economy (in terms of lost human capital or tax revenue); analyzing the incentives behind remittances (for support of family, or investment purposes); and assessing the effects of the remittances on the native country (effects on the balance of payments and growth). The literature broadly distinguishes between an altruistic motive to remit earnings to the migrant's native country (mostly for consumption by the family), and remittances sent to

¹⁹ Poonam Gupta, *Macroeconomic Determinants of Remittances: Evidence from India* (Washington D.C.: IMF, 2005).

either invest in the native country or to repay previously borrowed funds. Since the 1991 crisis, NRI deposit inflows have continued to be substantial, although their relative importance in the external accounts has declined. The past decade has witnessed rapid growth in information technology exports and inward foreign investment making India's foreign reserve position increasingly comfortable. Despite the significance of NRI deposits for India's balance of payments, there has been relatively little research to date on their determinants or stability. Thus, it is fairly difficult to conclude whether the decision to remit has been altruistic in motive. What can be observed is that with an increase in the number of migrants from India to the United States and the migration of high skilled worker's, over time, private transfers to India on current account have been very robust in the past decade. Among the variables that are found to be significantly associated with the movements in remittances include indicators of economic activity in the source countries. "Remittances are higher when economic conditions abroad are benign, and remittances are also found to be somewhat counter-cyclical, that is, higher during the periods of negative agriculture growth."²⁰

INVESTMENTS AND BANK DEPOSITS

NRI deposits were first introduced in February 1970 by the Indian government. (Table 26 provides a list of regulations that governed the NRI deposits from 1970-2003). The initial scheme was a rupee denominated account, the 'Nonresident (External)' Rupee Account (NRE), with repatriable principal and interest. In November 1975, a foreign currency denominated deposit facility, the 'Foreign Currency Nonresident Account' (FCNRA) was added. This deposit was also repatriable and was made attractive to the

²⁰ Ibid, 17.

banks through the RBI assuming the exchange rate risk. Nevertheless, the two schemes got off to a slow start (Figure 15). By March 1980, NRE deposits had risen to only US\$850 million, while the FCNRA scheme had attracted less than US\$200 million. In the 1980s, inflows into NRI deposits accelerated, with the FCNRA schemes enjoying particularly rapid growth. These inflows coincided with the widening of the current account deficit, and the need for increased borrowings on commercial terms. About half of the non-concessional debt inflows during the decade were external commercial borrowing (ECB) with the other half coming from NRI deposits.

By March 1990, the stock of NRI deposits had grown to US\$12.4 billion, of which 70 percent was foreign-currency denominated (Figure 16). The preferences of depositors for foreign currency deposits reflected the favorable interest rates on such deposits, together with the lack of exchange rate risk. Consequently, FCNRA accounts became an attractive source of funding for the banks because the RBI assumed the exchange rate risk, and because NRI deposits tended to have a less onerous 'Cash Reserve Ratio' (CRR) and 'Statutory Liquidity Requirement' (SLR) than deposits raised domestically.²¹ "These schemes, however, proved to be vulnerable during the 1991 balance of payments crisis, when outflows of deposits compounded the pressure on the external accounts."²² As a result, steps were taken to enhance the stability of the deposits by switching the composition toward rupee denominated accounts and by reducing the repatriable component (RBI, 2000). The exchange risk on foreign currency deposits was shifted back to the banks.

²¹ All data compiled from: Reserve Bank of India, *RBI: Indian Economy, Banking, and Finance*. Available [Online]:< <http://www.rbi.org.in/scripts/Statistics.aspx>>[5 October 2005].

²² Acharya Shankar, *India's Macroeconomic Management in the Nineties* (New Delhi: ICRIER, 2001).

Table 26. Regulations Governing NRI Deposits

February 1970: Rupee-denominated account—the Nonresident (External) Rupee Account (NR(E)RA)—was introduced. This provided for repatriation of both principal and interest.

November 1975: Foreign currency denominated deposit facility—the FCNRA—was added. These deposits were also repatriable and were made attractive to the banks through the RBI assuming the exchange rate risk.

November 1990: A nonrepatriable scheme, the FC(B&O)D, was introduced which was open to both foreigners and NRIs. The scheme was terminated in July 1993.

June 1991: A new foreign currency scheme, the FCN was introduced. Its distinguishing feature was that the principal was not repatriable.

June 1992: A nonrepatriable rupee-denominated scheme, the NR(NR)D, introduced. Banks allowed to fix interest rates on these deposits.

May 1993: A new repatriable foreign currency scheme, the FCNRB, was introduced, which differed from the FCNRA in that the banks were made to bear the exchange rate risks themselves.

May 1994: The maximum interest rate on rupee deposits reduced to 10 percent (the same as on domestic deposits).

August 1994: FCNRA scheme was closed to new deposits with effect from August 1994. By 1997, all remaining balances had been repaid.

October 1994: The maximum interest rate on rupee deposits was further reduced to 8 percent (2 percentage points below the ceiling on domestic deposits).

October 1995: The maximum interest rate on rupee deposits increased to 12 percent.

April 1996: Interest rates on term deposits with maturity of two years or higher freed.

April 1997: Interest rates on term deposits with maturity of one year or higher freed; interest rates on FCNR(B) permitted to be determined by the banks subject to ceilings.

September 1997: Interest rates on deposits of all maturity freed.

October 1997: FCNR (B) deposits to be offered at LIBOR of the relevant currency and maturity.

April 1998: FCNR (B) deposits of maturity of one year or higher to be offered at 50 basis points above LIBOR and lesser maturity deposits to be offered at 25 basis points below LIBOR.

October 1999: Minimum maturity of foreign currency deposits raised from six months to one year.

April 2002: FCNR(B) deposits with 1–3 years maturity to be offered at LIBOR/swap rates for respective maturities corresponding maturities minus 25 basis points.

April 2002: No fresh deposits to be accepted under NRNR scheme, overdue NRNR deposits not to be renewed, may be credited to the NRE accounts. If the NRNR deposits holder does not hold NRE account, he may be allowed to repatriate the maturity proceeds of the NRNR deposits outside India.

July 2003, September 2003, October 2003: Ceiling on interest rates on NRE deposits fixed at 250 bps, 100 bps, and 25 bps above the LIBOR, respectively.

Source: Reserve Bank of India, *Handbook of Indian Economy and RBI Bulletins*, Available[Online]:< <http://www.rupee-india.org/36/profits.html>>[30 April 2006].

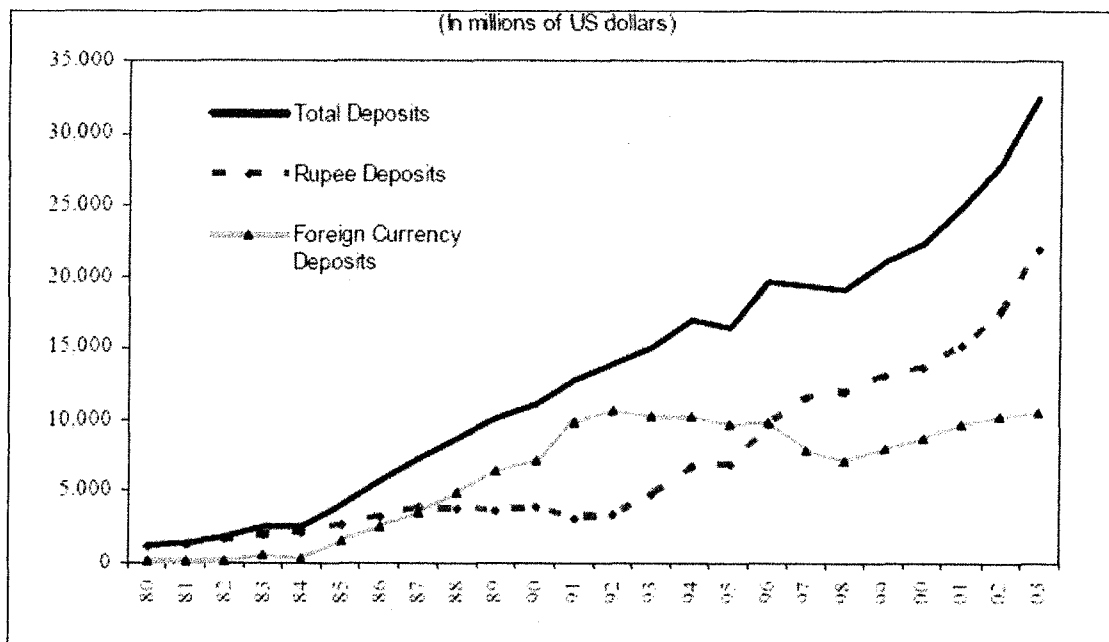


Figure 15. NRI Deposits

Source: Reserve Bank of India (RBI). Note: Data are end-December except for 1991-92 (end March) and 2003 (end-November).

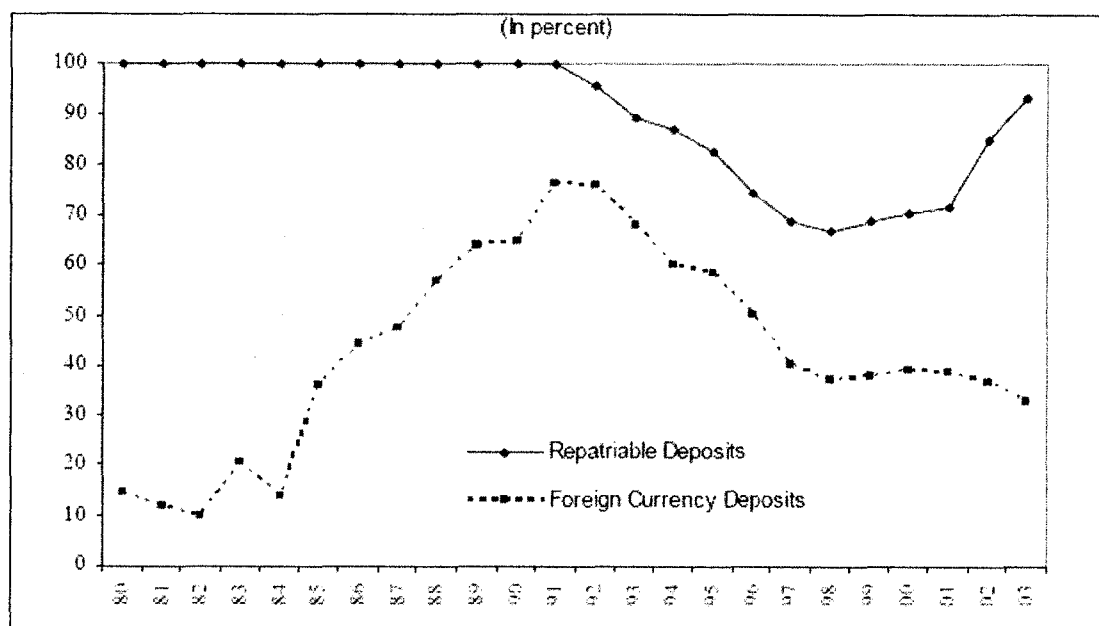


Figure 16. Share of Foreign Currency and Repatriable Deposits in Total Deposits

Source: Reserve Bank of India (RBI)

In the wake of the economic crisis in 1990, the authorities also made a number of changes to the deposit schemes. In June 1992, a new rupee-denominated scheme, the 'Nonresident Non-repatriable' (NRNR) account was introduced, which allowed the repatriation of interest income only. Deposits under this scheme were exempted from SLR and CRR requirements. In May 1993, a new repatriable foreign-currency scheme, the FCNRB, was introduced, which differed from the FCNRA in that the banks were made to bear the exchange rate risk themselves.

Additionally, India's progress in the decade of the nineties and the growing momentum of the expatriate's involvement in their country of origin, especially in the years 2000 – 2003 has yielded NRI foreign direct investment (FDI) of an amount close to \$ 1 billion and deposits to over \$25 billion.²³ The Reserve bank of India (RBI) offers statistics in terms of US foreign investments approved by the government of India. It also gives information about year-wise NRI investments (both technical and financial), and finally the total investments in millions of rupees that include investments from all countries and U.S. (Table 27). Table 28 also provides data on the inflow/outflow under various NRI schemes from 1990 to 2004.

Members of the Indian Diaspora have expressed sentimental and nationalistic feelings while investing in their home countries, but these have been calculated decisions with the realization that business is for profit and nobody invests if there is no potential. A closer look at the reasons for investing in India reveals that many of the decisions to invest were taken for reasons that go beyond nationalism and patriotism.

²³ See McKinsey & Company, 6.

Table 27. NRI Investments (Both Technical and Financial)

S.No	Time	No. of Collaborations			Foreign Investment by US (in Million of rupees)	Collaborations NRI	Million Rs	Total All countries Million Rs
		Tech	Financial	Total				
1	JAN 1991 - DEC 1991	125	52	177	1748.92	197	197	4,969.94
2	JAN 1992 - DEC 1992	177	155	332	11382.6	52	4,391.69	33,623.73
3	JAN 1993 - DEC 1993	145	153	298	34729.78	126	10,325.12	78,292.86
4	JAN 1994 - DEC 1994	169	179	348	34880.93	168	4,911.49	1,36,961.19
5	JAN 1995 - DEC 1995	209	260	469	70,447.83	141.00	7,097.07	3,17,726.53
6	JAN 1996 - DEC 1996	154	283	437	1,00,558.69	175	21,937.43	3,39,561.24
7	JAN 1997 - DEC 1997	144	315	459	1,35,698.26	121	18,171.80	5,30,731.89
8	JAN 1998 - DEC 1998	140	243	383	35,618.81	105.00	7,503.40	3,00,131.71
9	JAN 1999 - DEC 1999	120	358	478	35,751.68	144.00	4,548.08	2,79,117.27
10	JAN 2000 - DEC 2000	84	413	497	41,938.37	191.00	16,186.39	3,57,535.53
11	JAN 2001 - DEC 2001	63	587	650	49,197.41	112.00	6,097.40	2,62,649.22
12	JAN 2002 - JUNE 2002	33	302	335	17,337.22	49.00	3,117.98	74,446.78

Source: Data compiled from: India Investment Center, *Statistics: Country-Wise Foreign Investments Approved*. Available [Online]:<
http://iic.nic.in/iic2_c01.htm>[30 April 2006].

Table 28. Inflows (+) / Outflows (-) under Various NRI Deposit Schemes

							(US \$ million)
Year	FCNR(A)	FCNR(B)	NR(E)RA	NR(NR)RD	FC(B&O)D	FC(O)N	Total
1	2	3	4	5	6	7	8
1990-91	1465	-	384	-	287	-	2136
1991-92	-311	-	324	-	564	-	577
1992-93	825	-	255	637	446	-	2163
1993-94	-1317	1075	777	1131	-507	12	1171
1994-95	-2249	1979	1049	742	-533	-2	986
1995-96	-2796	2669	-208	1279	-	4	948
1996-97	-1949	1773	1244	2246	-	-9	3305
1997-98	-2270	971	1197	1256	-	-1	1153
1998-99	-	-632	799	793	-	-	960
1999-00	-	337	885	318	-	-	1540
2000-01	-	904	860	553	-	-	2317
2001-02	-	594	1626	508	-	-	2728
2002-03	-	526	6195	-3745	-	-	2976
2003-04	-	762	4695	-1816	-	-	3641

@ All figures are inclusive of accrued interest and valuation factor.

FCNR(A) Foreign currency non-resident (accounts). NR(NR)RD Non-resident (non-repatriable) Rupee deposits

NR(E)RA Non-resident (external) Rupee accounts. FC(O)N: Foreign currency (ordinary) non-repatriable deposits

FC(B&O)D Foreign currency (bank and other) deposits.

FCNR(B) Foreign currency non-resident (banks).

Source: Reserve Bank of India (RBI)

This leads us to some basic questions like, ‘why invest in India?’ and ‘how much has been invested in India by the Diaspora?’

Why invest in India – some basic facts about India in the new millennium sheds light on why would anybody, Diaspora or non-Diaspora, want to invest in India. The following data, both economic and political, make India a good investment site. Among the economic reasons:

- India is one of the largest economies in the world having a long history of market economy infrastructure
- Its strategic location makes it accessible to the vast domestic and South Asian markets (with SAFTA coming into effect)
- It has a large and rapidly growing consumer market up to 300 million people, constituting the market for branded consumer goods - estimated to be growing at 8% per annum
- Demand for several consumer products has grown at over 12% per annum
- Foreign investment has been made welcome by the Indian government since liberalization in the early 1990s
- Skilled manpower and professional managers have been available at competitive cost
- A growing IT industry, both domestically and internationally

Among the political benefits, the Indian government has additionally listed out benefits for investors. These include:

- A policy environment that provides freedom of entry, investment, location, choice of technology, production, import and export
- A well-balanced package of fiscal incentives
- A sophisticated legal and accounting system
- Convertible Rupee on Current Account at market-determined rate
- Free and full repatriation of capital, technical fee, royalty and dividends

- Free use of Foreign brand names
- No income tax on profits derived from export of goods
- Complete exemption from Customs Duty on industrial inputs and Corporate Tax Holiday for five years for 100 per cent
- Export Oriented units and units in Export Processing Zones
- Corporate Tax applicable to the foreign companies of a country, with which agreement for avoidance of Double Taxation exists, can be one that is lower between the rates prevailing in any one of the two countries and the treaty rate
- A long history of stable parliamentary democracy.²⁴

The Indian Diaspora has been most active in making investments in capital formation through building the infrastructure, through business operations, and through venture funding. In China, about 65 to 80 percent of its foreign direct investment (FDI) comes from its overseas Chinese community.²⁵ This has been instrumental for development in China, especially at the regional level. The Indian Diaspora, in contrast, lags far behind and needs to build clear priorities around which to build partnerships to compete with other Diaspora roles.

Infrastructure is identified as crucial for enabling any kind of project/venture that is undertaken. Thus, a large extent of buying bonds, channeling funds, and participating in the debate on infrastructure involves members of the Indian diaspora. For example, the Indus Holdings, founded by the Hinduja family of London, leverages tax-breaks in Mauritius, and channels money from overseas Indian investors into banking, communications, power, airports, and urban transit systems. The Andhra Pradesh government continues to stay committed to the US \$17 million Pulichintala reservoir

²⁴ Source: FICCI, *Pravasi Bhartiya Divas*. Available [Online]: <<http://indiaday.org/index.htm>> [12 October 2005].

²⁵ McKinsey & Company, A3.

project, in some part due to the support shown by NRI Telugus in offering to purchase bonds, and in lobbying the World Bank, and the Central Government in India. “Power, railways, civil aviation, ports, telecom, roads and urban development, as a whole, require the finances for infrastructure that could become available at costs that are internationally competitive with the servicing of the debt. Here the twin roles of FDI and NRI deposits become important.”²⁶

Repatriable deposits by the NRIs are other channels of financial investment in the Indian economy that has led to gains from brain drain of human capital. Unlike remittance inflows that are unrequited transfers in the current account, bank deposits are entered into the capital account on the balance of payments.

RETURN MIGRATION

Jagadish Shukla, a professor of climate dynamics at George Mason University in Virginia, said during the First Pravasi Bhartiya Divas meet in New Delhi in January 2003, that he was returning to start a school in his village in eastern Uttar Pradesh. “In my village, nothing has changed,” he said, noting that it took longer to get the village from New Delhi than it did to get to New Delhi from the District of Columbia. The Escorts Heart Institute in New Delhi, India, founded by Dr Naresh Trehan, performs minimally invasive, robotically controlled cardiac surgery, the latest frontier in heart surgery. Trehan came to the U.S. in 1969 and by mid-80s was highly paid heart surgeon. He returned to India and with private funding, opened the institute, among largest of its

²⁶ N. K. Singh, *Infrastructure: The Emerging Opportunities (Highways, Ports and Airports)*, 2nd PBD Proceedings, (New Delhi: FICCI), 148. Mr. N. K. Singh is a Member of the Planning Commission in the Government of India.

kind anywhere. Escorts draws Indians and others from abroad to New Delhi, by bringing the most advanced technologies and techniques here. The institute is only second in Asia, after Japan, to perform robotic surgery. The center devotes 10 percent of its income to free care for the poor and subsidizes care for government employees, members of the military and retirees. Staff members in its mobile echocardiogram van see 100,000 villagers a year.²⁷

Such examples, as the ones enumerated above, are few and far between. Throughout the 1970s and 1980s, members of the Indian diaspora were talking of being involved in India's growth and having a strong voice contributing their ideas to India's development, at least in principle. In reality, however, an increasingly large number of Indian immigrants do not want to return. According to data from INS, more than one-third, have been naturalizing themselves into American citizens and thereby breaking any option of permanent return to India. The high number of 'trainees', 'workers', and 'students', the genuinely high-quality semi-finished human capital as Majumdar²⁸ calls them, have not returned to India on completion of their initial assignments.

In recent times, many US-based Indian engineers and technology entrepreneurs have been returning to India to have their own start-ups in India and also indulge in non-pecuniary indulgences such as philanthropy. This type and number of returning Indians had specially changed after the crunch in technology spending in the United States after the year 2000. This *return* has now become common as an increasing number of Indians are swapping careers with high six figure dollar salaries in the U.S. for opportunities in India. While earlier there was a trickle of Indians returning from abroad, today the facts

²⁷ Amy Waldman, "Indian Heart Surgeon Took Talents Home," *The New York Times*, 18 May 2003.

²⁸ Tapas Majumdar, "Old World is the New World," *The Telegraph, Calcutta*, 8 August 1994.

speak for themselves. According to one estimate, there are 35,000 returned NRIs in Bangalore alone, with many more scattered across India. According to a study conducted by India's NASSCOM (National Association of Software and Service Companies) in 2003, which categorized U.S. returnees, 15 percent were U.S. citizens and about that many more as Green card holders. These numbers indicate that a significant percentage of those returning are doing so by choice rather than compulsion. As mentioned by Mr. Atal Bihari Vajpayee, the prime minister of India in 2004,

“There was a time, not long ago, when many people in India bemoaned of the phenomenon of ‘brain drain’. Today a large number of highly qualified and successful Indian professionals are returning to India because they see that India itself has become a land of opportunity and achievement. Foreign companies and businesses now look at India as an important emerging market and are keen to invest here. At the same time, there has also been a reverse phenomenon. The year 2003 has seen many Indian corporates emerging as global players with impressive investments overseas and acquisitions of companies abroad.”

- Inaugural Session, January 9, 2004, Second PBD

Many have tried to explain why senior professionals are returning. Among some of the most common reasons for return, many Indians felt flattered that they are returning ‘to give something back’ to the country and that ‘India called to them’, but the majority of the entrepreneurs returned to India as they saw it as a – a high quality and low cost²⁹ – country with a huge comparative advantage in its English speaking, technology oriented service sector. In July 2003, in Santa Clara, in the heart of Silicon Valley, industry bigwigs like Intel, Microsoft and National Semiconductor Company were among a list of 28 employers taking part in ‘Career Factory 2003’, hosted by ‘Siliconindia’ magazine. Approximately 2,000 tech workers of Indian origin were checking out the job

²⁹ A World Bank study, by Jack Absteen, that classifies performance of countries, places India in the classic and coveted fourth quadrant of high quality and low cost. The other quadrants being, high cost-low quality; low cost-low quality (China and Philippines); high quality-high cost (Singapore and Ireland).

opportunities in India. In a study conducted at the University of California at Berkeley, it was discovered that over half of the Indian-born IT professionals in Silicon Valley would consider going back to establish a company. A shortage of high-tech jobs in the United States and increased downsizing could be motivators too. However, the most important reason for returning seems to be generated by 'pull factors' at origin (category 5 in Table 2, Chapter II) that include a good investment climate in business, health, and education sectors at home. Among other common reasons for return include: the tug of family and the almost atavistic pull of roots; pushed by diminishing job opportunities in Silicon Valley; and/or tightening American visa regulations. Notwithstanding the many adverse conditions that exist in India such as: excessive bureaucratic procedures; a mismatch between Indian education and employment; dismal working conditions; and lower salaries than what would earn abroad, many migrants do return.

Return migration remains an elusive subject, owing to the lack of official data. Countries that regulate and record exits do not record returns from abroad, except via disembarkation cards, which are usually voluntary and hastily filled out by the returning migrants. Surveys usually prove to be the main source of information on the subject. Studies done on the subject, through various individual examples and case records at best come up with general reasons for return; employment reintegration; social adjustments; use of remittances; and effects of return migration policies.

On a positive note, the return of certain professional groups does have some benefits for the home country. Investments, usually in businesses, health, and education sectors stimulate economic growth and act as a means to counter dependency on foreign capital. At the same time, as illustrated by a United Nations report in 1997, "return

migrations can only have a positive impact on development when the country of origin provides a proper social and economic environment for the productive use of the skills and savings of return migrants.”³⁰ As a case in point, Newly Industrialized Countries (NICs) such as India, Singapore, South Korea, and Taiwan benefit tremendously by having successful return policies along with advanced scientific, technological, and industrial sectors where manpower may effectively be employed.

In addition to sending country governments, many international organizations have also come up with programs to better facilitate the return of the skilled migrants. Regarded as carriers of capital, technology and entrepreneurship, skilled migrants are seen as contributing to the development of their native communities. United Nations Development Program’s Transfer of knowledge through Expatriate Nationals (TOKTEN) helps many qualified expatriates to return to work in their countries on specific projects on a volunteer basis. These programs, however, have been most successful when they have been supported by their active Diaspora organizations.

DIASPORA NETWORKS AND BRAIN CIRCULATION

The rapid growth of the foreign-born workforce has evoked intense debates over U.S. immigration policy, replacing discussions on ‘brain drain’ with ‘brain circulation’ where the assumption that the movement of skill and talent must benefit one country at the expense of another is giving way to newer ideas of circulation, where high-skilled immigration increasingly benefits both sides. The professional and social networks that link new immigrant entrepreneurs with each other have become global institutions that

³⁰ See United Nations Secretariat, Population Division, *International Migration and Development: The Concise Report* (New York: United Nations Reproduction Section, 1997).

connect new immigrants with their counterparts at home. These new transnational communities provide the shared information, contacts, and trust that allow local producers to participate in an increasingly global economy. This is the concept of 'brain circulation' that has become synonymous with 'brain gain'. The increasing sophistication of information and communication technologies and the liberalization of global markets has accelerated this process. It is now quick, simple, and inexpensive to communicate internationally and to transfer information between distant locations. Information systems that facilitate the formalization of knowledge are dramatically expanding the volume as well as the variety of possible forms of information exchange.

Silicon Valley: a Case in Point

Silicon Valley serves as a good example to discuss 'brain circulation' as its workforce is the world's most ethnically diverse body including a high number of Asian immigrants from China, India, and Taiwan among others. Many of these groups have become important cross-generational forums. "Older engineers and entrepreneurs in both the Chinese and the Indian communities now help finance and mentor younger co-ethnic entrepreneurs. Within these networks, 'angel' investors often invest individually or jointly in promising new ventures."³¹ Silicon Valley's Taiwanese engineers, for example, have built a vibrant two-way bridge connecting them with Taiwan's technology community. Their Indian counterparts have become key middlemen linking U.S. businesses to low-cost software expertise in India. These cross-Pacific networks give skilled immigrants a big edge over mainstream competitors who often lack the language

³¹ AnnaLee Saxenian, "Brain Circulation: How High-Skill Immigration Makes Everyone Better Off," *The Brookings Institute* 20 number 1 (Winter 2002): 28-31.

skills, cultural know-how, and contacts to build business relationships in Asia. The long-distance networks are accelerating the globalization of labor markets and enhancing opportunities for entrepreneurship, investment, and trade both in the United States and in newly emerging regions in Asia. Some interesting case studies are enumerated below.

Case Study # 1 ³²

Howard Yang was among the first 'returnees' to China in 1994. Yang was from Beijing but had spent more than a dozen years in the U.S., first obtaining a doctorate in electrical engineering from Oregon State University and then working for Silicon Valley companies like National Semiconductor, Chips & Technologies, and start-up Pericom Semiconductor.

Yang and his co-founders tapped their professional networks in the U.S. and Taiwan as well as China to start the company. NeWave Semiconductor Corp. began operations in 1997 with venture financing of \$5.4 m. from Silicon Valley and Taiwanese investors, Hua Hong Microelectronics (a state-owned enterprise in Shanghai), and several individual investors. The firm's headquarters is in Silicon Valley but most of the company's employment, including R&D and design as well as marketing, sales and administration, are in Shanghai.

Case Study # 2

Silicon Valley remains the center of new product definition and of design and development of leading-edge technologies, provided by Taiwanese engineers, which ensure continuous flows of information between the two regions. The reciprocal and decentralized nature of these relationships is distinctive. The ties between Japan and the United States during the 1980s were typically arm's - length, and technology transfers between large firms were managed from the top down. The Silicon Valley-Hsinchu relationship, by contrast, consists of formal and informal collaborations among individual investors and entrepreneurs, small and medium-sized firms, and divisions of larger companies on both sides of the Pacific. In this complex mix, the rich social and professional ties among Taiwanese engineers and their U.S. counterparts are as important as the more formal corporate alliances and partnerships.

Case Study # 3

Silicon Valley-based firms are poised to exploit both India's software talent and Taiwan's manufacturing capabilities. Mahesh Veerina started Ramp Networks (initially Trancell Systems) in 1993 with several Indian friends, relatives, and

³² AnnaLee Saxenian, *Brain Circulation and Chinese Chipmakers: The Silicon Valley-Hsinchu-Shanghai Triangle* (Berkeley: University of California at Berkeley, 2002), 1.

colleagues. Their aim was to develop low-cost devices to speed Internet access for small businesses. By 1994, short on money, they decided to hire programmers in India for one-quarter of the Silicon Valley rate. One founder spent two years setting up and managing their software development center in the southern city of Hyderabad. By 1999 Ramp had 65 employees in Santa Clara and 25 in India.

Case Study # 4

After a decade with Intel, the dominant manufacturer of microprocessors, and a failed technology start-up funded by Indian “angel investors”, Mr. Iyengar has set up a back office unit in Bangalore for his new US employer.³³ Naren Bakshi, Founder, Versata in Jaipur (capital of the state Rajasthan in Western India) after working closely with seven IT entrepreneurs in the Silicon Valley from ‘The Indus Entrepreneurs (TiE)’ has created a new organization called Rajasthan IT Entrepreneurs Group (RITEG). This group attracts innovative entrepreneurs from a large number of fields including non-IT and has conducted many mentorship programs in schools and colleges, organized many IT events, has hosted a venture capital conference, has created special interest groups for IT and Tourism, and has organized a TiEcon with a focus on Tourism.³⁴

Overseas Indians have also taken advantage of their positions in the companies they work for or their own start-ups business operations. As a result of their direct and indirect lobbying, American technology firms have been encouraged to invest directly in India, especially in the Information Technology (IT) industry. Members of India’s Diaspora, who are employed amongst the top consultancies and multinational firms, can facilitate access to the top management, by supporting trade and FDI initiatives, and helping to increase the share of products outsourced by large multinational corporations. Indian professionals, traders and businessmen also provide useful insights for market penetration strategies and use their networks for the entry of new products and services from India. The list of Fortune 500 United States investors in India is listed in Table 29.

³³ Khozem Merchant, “India’s New B2B means Back to Bangalore,” *Financial Times*, 19 May 2004.

³⁴ TiE: The Indus Entrepreneurs, *A Global Not-For Profit Network of Professionals Dedicated to the Advancement of Entrepreneurship*, (2004). Available [Online]:<<http://www.tie.org/newsletter/02/articles2.htm>>[24 January 2006].

Table 29. United States Fortune-500 Investors In India

Abbott Laboratories	Ingersoll-Rand Company	AlliedSignal Incorporated
American Express Company	American Home Products Corporation	AMP Incorporated
Apple Computer, Incorporated	Asarco, Incorporated	Associates First Capital
AT&T	Avery Dennison Corporation	Bank of America Corporation
The Bank of New York	Bankers Trust New York Corporate	The Black & Decker Corporation
Brunswick Corporation	Caterpillar, Incorporated	The Chase Manhattan Corporation
Chevron Corporation	Citicorp	CMS Energy
The Coca-Cola Company	Colgate-Palmolive Company	COMPAQ Computer Corporation
ConAgra, Incorporated	Cooper Industries, Incorporated	Corning Incorporated
CPC International Incorporated	Cummins Engine Company, Incorporated	Dana Corporation
Digital Equipment	The Dow Chemical Company	E.I. DuPont de Nemours & Company
Eastman Kodak Company	Emerson Electric Company	Enron Corporation
The Estee Lauder Co., Incorporated	Exxon/Esso	Farmland Industries, Incorporated
Federal Express	Fluor	Ford Motor Company
General Electric Company	General Motors Corporation	The Gillette Company
The Goodyear Tyre & Rubber Company	W.R. Grace & Company	Harris Corporation
Hasbro Incorporated	Hewlett-Packard Company	Honeywell, Incorporated
Intel Corporation	International Business Machines Corp.	Johnson Controls Incorporated
Johnson & Johnson	Kellogg Company	McDonald's Corporation
The McGraw-Hill Co., Incorporated	Merck & Company, Incorporated	Merrill Lynch & Company, Inc.
Microsoft Corporation	Minnesota Mining & Manufacturers	Mobil Corporation
Monsanto Company	J.P. Morgan & Company	Morgan Stanley Group
Motorola Incorporated	NYNEX Corporation	Oracle Corporation

Continued

Parker Hannifin Corporation	PepsiCo Incorporated	Pfizer Incorporated
Phelps Dodge Corporation	Phillip Morris Companies Inc.	Phillips Petroleum Company
PPG Industries, Incorporated	The Procter & Gamble Company	Qualcomm
Raytheon Company	Rockwell International Corporation	Rohm & Haas Company
Sara Lee Corporation	Shering-Plough Corporation	Silicon Graphics
Sprint Corporation	Sun Microsystems	Tenneco Incorporated
Textron Incorporated	TRW Incorporated	Union Carbide Corporation
United Parcel Service of America	United Technologies Corporation	UNISYS Corporation
US WEST, Incorporated	USX Corporation	The Walt Disney Company
Warner-Lambert Company		

Source: Embassy of India, Washington D.C., Indo-US Economic Relations.

Knowledge Networks

An OECD working paper³⁵ identifies the application of new information technologies as causing a reduction in the international migration of the highly skilled. Since knowledge is transferable geographically in a number of ways not requiring physical presence, Diaspora networks become more viable than ever. Modern satellite and fiber-optic communications, faxes and emails make it easier to establish network links with the Diaspora, highly skilled groups whose main contribution is knowledge. In the service sector, India has long-term benefits as we are in the knowledge era where knowledge is translated as both power and wealth.

Various knowledge-based industries, with the help of Diaspora initiative, are now networking for global leadership. Excerpts from different speeches in the roundtable discussion held on 9-11 January, 2004, Vigyan Bhawan, New Delhi stress the growing importance of Diaspora networks in a knowledge era.

Excerpt 1: Mr R Ramaraj Managing Director and CEO, Sify Limited, India

Today India is recognised as a business destination, as the destination for outsourcing. Fortunately, we find that it is not just in the IT or the knowledge-based industries but overall that India has been fortunate, including in industries like auto-components, that we are starting to make a serious dent in the outsourcing market. The pharmaceutical industry is starting to outsource, and that opportunity is expected to be about \$48 billion.

Excerpt 2: Mr Kiran Karnik, President, NASSCOM, India

I address myself particularly to the diaspora living in other countries. That is a critical role of being able to work in partnership, a partnership that may involve moving technology back and forth, a partnership that may involve acting as a so-called front-end in a country which is a market, acting as a link, helping to bring in maybe funding, bring in technology, bring in customers. There are great

³⁵ For a better discussion see: Organization for Economic Cooperation and Development, *International Mobility of the Highly Skilled*, OECD Proceedings, (Danvers, MA: OECD, 2002).

possibilities of partnership where the human talent in India can be capitalized on, to dig up this two-way partnership and take it forward in a really big way.

Excerpt 3: Dr Krishna M Ella, Chairman and Managing Director, Bharat Biotech International Limited, India

India is a scientific pool. Next to the US, India is highest in terms of number of people in biological sciences. We have wonderful clinical database in the country. Our strong IT skill is really going to help biotech and, certainly the younger generation, like us, is keen to be in the knowledge-based industry. Once 2005 is in place, a lot of outsourcing is going to happen, particularly contract research, contract development and contract manufacturing, and people looking at joint ventures with MNCs in the US where Indians form a large number.

Excerpt 4: Mr J Rajagopal, Director, Life Sciences, Tata Consultancy Services, India

In recent years, large companies such as my own are moving into new verticals such as life sciences and healthcare and, therefore, are ready to take up new challenges. India is one of the leading nations with a qualified pool of scientists and engineers. Many Indian scientists are in key positions of research and management in several of the leading pharmaceutical and biotechnology companies in US and elsewhere. Many of the leading institutions in India are part of the global best.

The only successful strategy will be based on partnership between academia, industry and the government, and between Indian domestic and non-resident Indians (NRIs).

Excerpt 5: Dr Zareen Karani Araoz, President, Managing Across Cultures, USA

I deal with companies at both ends and I think there are three issues I would quickly like to deal with. One, all Indians need to understand the reasons and the benefits of outsourcing for the host country so that we do not get the backlash of countries withdrawing in that area. The second issue is creating a culture of innovation in India, utilizing the Diaspora. But the major area I want to raise people's awareness is adequately addressing the cultural and communication issues that can be bridged with the help of the Indian Diaspora.

Excerpt 6: Dr Saroj Basak, Vice-President, Product and Business Development, Celprogen Inc, USA

Biotechnology can be categorized into discovery, development and marketing. Interaction between people (which is the networking and which the Diaspora can help people do) will develop the niche between themselves so that it can help technology, the industry as well as the people of the world over, not only India.

Excerpt 7: Dr Gandhi, Department of Biotechnology, India

We have been interacting with NRIs and we have some programs of human resource development where we are providing biotechnology associate-ship overseas for short term and long-term to 25 scientists. We are supporting over 60 universities, institutions for post-graduate, post-doctoral and post-MD and MS programs. We are supporting more than 15 training programs for mid-career scientists and industrial R&D people. Another program which is being frequently used by NRIs is our visiting scientists from abroad, where a host laboratory can invite scientists from outside to work with the laboratories.

The Department also created over 60 national facilities that include repositories for microbial and other microorganisms and collections. We have advanced biotech facilities like micro-erase facilities, NMRs, DNA sequencing facilities. We also set up one super-computing facility at IIT, New Delhi.

Based on some of these views and opinions, it becomes clear that the task of communicating and taking advantage of the whole economy, the Indian government needs to work through NRIs to establish contact with the great institutions of other countries and that will create the real win-win opportunity and will reflect Indian companies as being true global players, particularly in IT where, by and large, India has not taken full advantage of its capacity to develop intellectual property, to sell products. Although the concept of the Diaspora as a 'brain bank' from which knowledge can be borrowed is not new, the concept takes on new and promising dimensions with the growth of 'knowledge networks' in India for the last ten years. Expatriate Indian professionals promote the exchange of skills and knowledge, especially in countries where they are residing in large numbers such as the United States. Diaspora networks can thus be important channels for knowledge transfers through what the International Organization for Migration (IOM) calls "virtual return migration" as opposed to physical travel.

Primary Education

In the field of education, several overseas Indians, through network links have led efforts to establish world-class management institutes in India. Since the migration of students had contributed primarily to the drain, NRI input in the education sector represents some attempt to turn this back to a gain. The American Indian Foundation, a non-profit organization in the United States has as part of its educational strategies, has taken up challenges for the betterment of the education sector in India. These have primarily two-fold in nature, (a) increase access to education and (b) to improve quality of education and retention of students in schools.³⁶

Besides providing primary education, NRIs have also taken initiative in establishing world-class institutions such as the Indian School of Business in Hyderabad³⁷ and the Indian Institute of Public Health. “Besides these, Alums of the Indian Institute of Technology in the United States have donated over \$50 million towards primary education.”³⁸

Health

The Indian Diaspora has also played an important role in promoting primary health care in India as well. Of late, the help sought from resourceful members of the

³⁶ AIF: American Indian Foundation, *The Education Strategy*, (2005). Available [Online]:<http://www.aifoundation.org/site/Grants/Education_Projects/index.html>[18 October 2005].

³⁷ Global Institute is a joint initiative of three global leaders in policy-related research: The Brookings Institution, The World Bank, and Center for Economic Policy Research in London. As a first step towards building the Global Institute, a set of institutions in the transition countries will join together in a core network. The Indian School of Business (ISB) and the National Council of Applied Economic Research (NCAER) are two institutions in India who have joined this network.

³⁸ McKinsey & Company, 12.

Indian Diaspora has been found in every quarter in India. Governments, NGOs, corporations and several communities and groups in India have sought the Diaspora's helping hand. Primary health care has been a complex issue for India. The health of a population has not just been confined to hospital and medical facilities. A much wider domain of socio-economic, political and environmental aspect has to be taken into account to promote the health of the population.

Several members of the Diaspora have been quite optimistic about their contribution to India's development in the health sector. The only hurdles have been the level of transparency and infrastructure bottlenecks. "Several Telugu associations in USA and elsewhere have been prepared to give any amount, but they are apprehensive of proper utilization of funds."³⁹ Dr. Ashok Dayal Chand, Institute of Health Management, Maharashtra, has also expressed his disappointment over the government collaboration, which has made many health programs unsustainable due to bureaucratic procedure. The emphasis has been on accountability and trust building. Suggesting NGOs and organizations who are involved in resource generation, he said that the 'projects should be packaged so that they (NRIs) should find it interesting'. He cautioned that there should be proper management and there is a need of corporate collaboration in mediating Indian Diaspora and health programs to make health care programs successful.

India's first hospital consultancy body - the 'Indian Hospitals Corporation' - and the commissioning of two more tertiary care centers in India, soon followed Apollo Hospital, established in Chennai in 1983, by a US-based cardiologist, Dr. Reddy. Not only did he set a precedent for corporate healthcare in the country but also the

³⁹ Sadananda Sahoo, *Seeking Diaspora Input for a Healthy India* (Hyderabad: Center for the Study of Indian Diaspora (CSID), University of Hyderabad, 2004).

Government of India recognized his enterprising efforts leading to financial institutions amending their funding legislation to include hospitals.⁴⁰

In addition there are many example of a few people in corporate sectors in primary health care such as L.V. Prasad Eye Institute, established by an NRI, to provide services for the poor free of cost and the Hinduja hospital in Mumbai. Mr. Manoj Kumar, CEO of Naandi Foundation emphasized the importance of Indian Diaspora in primary health care. His focus has been mainly on 'enhancing the quality and access of primary health care in rural areas' and 'access to safe drinking water'. For this initiative, he has sought the help of Indian Diaspora in these areas. Dr. R. Gopal Kumar, Assistant Director, Research and NGO Services, CAF India, has also emphasized the willingness of NRIs for various programs in India.⁴¹ At an individual level, thousands of Indian doctors have returned for the long-and short terms to provide medical services to India. They have worked in hospitals, medical camps, and teaching institutions to deliver healthcare.

Project/need-based support

The Diaspora has also contributed its support time and again for project-based efforts targeting specific issues. These include volunteer help and relief services in disaster relief operations. After the Gujarat earthquake, NRI groups in the United Arab

⁴⁰ On an upswing since then, today the Apollo Hospitals Group has over 22 centers in major metropolises in India with a combined turnover of over US \$ 100 million. Apollo Hospitals, *Chairman's Profile*. Available [Online]:<<http://www.apollohospdelhi.com/apollo-group/chairmans-profile.html>>[12 January 2004].

⁴¹ CAF America, *Servicing the International Philanthropic Community*, (1993). Available [Online]:<<http://www.cafonline.org/cafamerica/default.cfm>>[13 July 2005]. CAF America can help US citizens add value to their gifts to charities based anywhere in the world. The services they provide have been designed to bridge the gap between tax-effective giving and the needs of international charities.

Emirates adopted small towns and villages. The 'America India Foundation in the United States' raised about \$4.7 million for the quake victims, and thousands of overseas Indians volunteered to work in Gujarat in the aftermath.⁴² In response to the tragic events of September 11th, AIF also temporarily served as a grant-making vehicle for members of the Indo-American community interested in providing financial assistance to the victims of the attacks. Members of the community channeled over \$1,000,000 through AIF to organizations including the Citizen's Scholarship Fund, the Chicago Remembers Fund, and the Twin Towers Fund amongst others.

The American India Foundation (AIF) also raised \$2 million for the Tsunami Relief Fund and victims in India. To this end, AIF awarded grants to the South Indian Federation of Fishermen Societies (SIFFS), working to rebuild coastal fishing industries by setting up local repair stations for crafts and engines; the Tamil Nadu Women's Collective (TNWC) and the Integrated Women's Development Institute (IWDI), both working to improve long-term political, social, and economic empowerment for tsunami-affected women and children through programs like self-help groups and microcredit loans.

Interestingly, the Indian governments' attempts to woo the NRIs into 'nation-building' have been focused on the economy-end rather than the education-end or health, as some would expect. A variety of incentives and preferential treatments have been offered to attract overseas investments (there is even talk of providing dual citizenship to expatriates living abroad). In sharp contrast, no serious efforts at the national or regional level have been made, except for some charitable efforts by a few NGOs and select

⁴² The Gujarati community is one of the most affluent among Indians in the United States. They mostly run the Gas-station, hotel and motel businesses in the United States.

individuals on their own initiatives, that would get the NRIs physically or financially involved in drawing out major parts of human resource potential – either in the education or the health sector.

CONCLUSION

Emigration from India is traditionally seen as a drain since they lose some of their most valuable people. One of the most frequently asserted explanations for the high rate of out-migration of professionals is the imbalance between education and employment. It is important to recognize that over-expansion of higher education is partially responsible for the decision to emigrate. Thus, even though the demand for higher education may be high, if the economy is not able to absorb the number of graduates, especially in highly populated countries like India, then out-migration is seen as a logical consequence.

Since the 1960s, skilled migration from India was viewed as a loss of scarce human capital and public resources, leading to proposals such as a tax on the brain drain. However, in recent years, coinage of terms such as ‘brain gain’ and ‘brain circulation’ reflect a shift in thinking. Skilled outflows are being seen as a potential positive force for the source country of migration. In India, the changing perception about skilled migration has been driven by the role of NRIs in sectors like IT, education, and health. There is growing awareness about the Indian diaspora’s contribution towards investment flows, skill, knowledge, technology transfer, trade and business opportunities, and India’s brand equity.

CHAPTER VI

INDIAN DIASPORA IN THE UNITED STATES: SOFT POWER AND BRAIN GAIN

“Power is passing from the ‘capital-rich’ to the ‘information-rich’.”
- Joseph S. Nye¹

INTRODUCTION

So far, the discussion on brain gain for the sending country, India, through migrant or Diaspora networks, is explained in terms of migration and economic development or gains. Very similar to the concern raised by economists, is the question of migration and political change. With increasing migration of highly skilled people, both sending and receiving countries realize the importance of Diaspora communities in their bilateral dealings, serving varied roles as stakes or instruments in state-to-state interaction. Large Diaspora groups settled in the United States use their position to lobby, both directly and indirectly, issues of concern for their countries of origin. Usually this includes both economic and political concerns. Consequently, migration, in such situations, loses its traditional image as a sector of ‘low politics’ and may alter or even advance to other priorities in international relations. Migration thus changes the nature of power between two countries and becomes multidimensional, changing from actor to actor in specific issue areas.

Within this context, it is argued whether the migration of the highly skilled people from India can be effectively utilized as soft power for their country of origin, redefining notions of asymmetrical interdependence between them. Insofar as current theories are concerned, in all of the discussion on brain drain, brain gain, and future

¹ Joseph S. Nye, 75.

trends of migration flows (either capital or people), the core of the interest in the migration of the highly skilled remains 'economic'. Moving beyond dependency theory that posits the importance of brain drain taking place from the South to the North in economic terms, current theories do not explain in detail the 'political implications' of contemporary South to North migrations. This is a serious gap in the literature that links international migration and international relations.

Indians in United States have emerged as the single largest as well as fastest growing component of the Indian Diaspora worldwide. Their achievements and status make them distinct from other communities in the United States. Today, the Indian American community² constitutes the third-largest Asian American population in the US, after the Chinese and Filipino Americans respectively. Boasting large numbers of professionals – doctors, dentists, scientists, engineers, entrepreneurs, and computer and software specialists – the community has become increasingly affluent and powerful in the last decade of the 20th century.

This chapter traces the emergence of the Indian Diaspora in the United States as having the power of attractive ideas, through their position of wealth and education, to set the political agenda beneficial to their home country. It evaluates, through evidence and arguments whether: *skilled migrants with high levels of education and income are more likely to influence (economic and political) investments for their country of origin. And whether they can be utilized as soft power to redefine asymmetrical relationships between country of origin and destination.* This is the second hypothesis in this dissertation.

²The population of the Indian American community is nearly equal to the entire population of the State of Nebraska. Nebraska has 3 Congressional Representatives. There are only two Indian American state legislators out of 7,424 total state legislators (according to the National Conference of State Legislatures) in the United States.

The chapter is structured as follows. First, critical trends with important implications for the leverage the Indo-American community can exercise in their country of settlement – the United States, will be observed. Second, the visibility and power of Indo-Americans, as high achievers in important fields such as information technology (IT) and other industries will be explored. The third section witnesses the role of the Indo-American community in exercising political influence through their lobbying efforts, both directly and indirectly. Lastly, through these migration linkages, there will be an attempt to tie in concepts soft power, and interdependence as elements of brain gain for the sending country.

STATISTICAL PROFILE OF ASIAN INDIANS IN THE UNITED STATES

After India's independence in 1947, the number of Indian students migrating to the United States increased dramatically bringing in their wake, high levels of academic attainment and valuable scientific and engineering skills to their new country. The last decade has witnessed some trends with the migration of Indians to the United States. First is a sharp increase in their numbers after the 1965 Immigration and Naturalization Act. Second is their growth in all states of America from 1990 to 2000. Third, in terms of education, Asian Indians have the highest percentage with a bachelor's degree. Fourth is their high representation among the more remunerative professions in the US as compared to other Asian communities. And last, the wealth of Asians and Indians in particular, has the median annual income that was higher than the median of all families in the US.

Population in Numbers

Annual immigration into United States from India, as recorded by the Immigration and Naturalization Services (INS) reveals some interesting data with respect to number of Indians in the United States.³

1920	5,000 (estimate)
1960	5,000 (estimate)
1970	350,000
1990	815,477
1997	1.215 million
2000	1.7 million

As recently as 1980, there were only 387,000 Indian Americans in the United States, but by 1997, this figure had more than tripled to 1,215,000.⁴ According to the Census Report of 2000, the Indian American population in the United States has dramatically increased by almost 106 percent from 1990 to 2000, comprising 1.7 million of the U.S. population, rising by more than twofold from 815,447 in 1990.

	Growth	Growth Rate
1980 – 1990	8.5%	103%
1990 – 1997	55%	--
1990 – 2000	--	106%

India records the highest increase among the Asian American community, and is considered to be the fastest growing in the United States. Ten years ago the Indian Americans had ranked fourth in the group, behind Japanese Americans, today it is the third largest Asian American group behind both Chinese and Filipino Americans.

³ All data has been compiled from: U.S. Department of Homeland Security, *2004 Yearbook of Immigration Statistics* (Washington D.C.: Office of Immigration Statistics, 2006).

⁴ *Ibid*, 42.

According to an analysis given by the 'Indian American Center for Political Awareness' (IACPA),⁵ a key factor that has accounted for the rising numbers in the Indian American community is the influx of H-1B visa holders and their families (spouses and children) who have helped stimulate economic growth at unprecedented rates in the last several years.⁶ According to figures from the Department of Homeland Security, the number of H-1B visas issued to those from India has grown visibly from 2,697 in 1990 to 15,228 in 1995 to 55,047 in 2000, and 85,536 in 2004.

This impressive growth in recent years can also be largely attributed to the significant increase in the migration flows in the last four years. This includes the new arrivals to the U.S. who obtain immigrant visas abroad through the Department of State and people who were already living in the United States, who became permanent residents by applying for adjustment of status with the INS.

Although the Indo-American community represents only 0.6% of the US population,⁷ it is important to note the rate at which it is increasing as this could potentially become very significant for demography within the US. For now, it is this number in combination with other characteristics, such as distribution, education, profession, and income that makes this community worth observing.

⁵ IAPCA: The Indian American Center for Political Awareness, *Participation by the Indian American Community in American Democracy*. Available [Online]: <<http://www.iacfpa.org/>> [4 August 2004].

⁶ The H1B visa (or simply called H1 Visa) is a non-immigrant employment based visa for workers coming to the USA to perform a "specialty occupation." Workers from Mexico and Canada can get a special TN status under the NAFTA treaty. The H1B status allows foreign workers to work in the USA for a maximum of six years. It is granted for three years and can only be renewed once for an additional three years. The Information Technology industry uses this type of visa frequently to fill vacant positions. Many H1B applicants are engineers or computer programmers. Quotas are set every year for the H1B visa by the government.

⁷ In one interesting comparison, IACPA's analysis notes that the Indian American population is equivalent to that of the state of Nebraska which indicates that if all of the Indian community lived in one state, then Indian Americans would have three members of Congress.

Table 30. Indian American population by State of Residence

STATE	TOTAL POPULATION	INDIAN AMERICANS	AS %AGE OF TOTAL	ASIAN AMERICANS	I-A AS %AGE OF ASIAN	%AGE GROWTH FROM 1990
ALABAMA	4447100	6900	0.16	31346	22.01	58.69
ALASKA	626932	723	0.12	25116	2.88	53.18
ARIZONA	5130632	14741	0.29	92236	15.98	160.3
ARKANSAS	2,673,400	3,104	0.1	20,220	15.4	133.56
CALIFORNIA	33,871,648	314,819	0.93	3,697,513	8.51	96.8
COLORADO	4,301,261	11,720	0.27	95,213	12.31	205.53
CONNECTICUT	3,405,565	23,662	0.69	82,313	28.75	101.29
DELAWARE	783,600	5,280	0.67	16,259	32.47	141.87
DISTRICT OF COLUMBIA	572,059	2,845	0.5	15,189	18.73	77.7
FLORIDA	15,982,378	70,740	0.44	266,256	26.57	124.88
GEORGIA	8,186,453	46,132	0.56	173,170	26.64	231.27
HAWAII	1,211,537	1,441	0.12	503,868	0.29	41.97
IDAHO	1,293,953	1,289	0.1	11,889	10.84	172.52
ILLINOIS	12,419,293	124,723	1	423,603	29.44	94.27
INDIANA	6,080,485	14,685	0.24	59,126	24.84	106.98
IOWA	2,926,324	5,641	0.19	36,635	15.4	86.73
KANSAS	2,688,418	8,153	0.3	46,806	17.42	106.09
KENTUCKY	4,041,769	6,771	0.17	29,744	22.76	131.72
LOUISIANA	4,468,976	8,280	0.19	54,758	15.12	62.9
MAINE	1,274,923	1,021	0.08	9,111	11.21	68.2
MARYLAND	5,296,486	49,909	0.94	210,929	23.66	76.17
MASSACHUSETTS	6,349,097	43,801	0.69	238,124	18.39	122.13
MICHIGAN	9,938,444	54,631	0.55	176,510	31.12	129.11
MINESSOTA	4,919,479	16,887	0.34	141,968	11.89	105.09
MISSISSIPPI	2,844,658	3,827	0.13	18,626	20.55	104.43
MISSOURI	5,595,211	12,169	0.22	61,595	19.76	99.13
MONTANA	902,195	379	0.04	4,691	0.02	52.82

Continued

NEBRASKA	1,711,263	3,273	0.19	21,931	14.92	168.72
NEVADA	1,998,257	5,535	0.28	90,266	6.13	203.29
NEW HAMPSHIRE	1,235,786	3,873	0.31	15,931	0.23	128.23
NEW JERSEY	8,414,350	169,180	2.01	480,276	35	112.97
NEW MEXICO	1,819,046	3,104	0.17	19,255	16.12	94.85
NEW YORK	18,976,457	251,724	1.33	1,044,976	24.09	78.55
NORTH CAROLINA	8,049,313	26,197	0.33	113,689	23.04	166.04
NORTH DAKOTA	642,200	822	0.13	3,606	0.05	70.54
OHIO	11,353,140	38,752	0.34	132,633	29.21	85.88
OKLAHOMA	3,450,654	8,502	0.25	46,767	18.18	87.02
RHODE ISLAND	1,048,319	2,942	0.28	23,665	12.43	48.96
SOUTH CAROLINA	4,012,012	8,356	0.21	36,014	23.2	114.26
SOUTH DAKOTA	754,844	611	0.08	4,378	13.96	112.89
TENNESSEE	5,689,283	12,835	0.23	56,662	22.65	117.14
TEXAS	20,851,820	129,365	0.62	562,319	23.01	131.98
UTAH	2,233,169	3,065	0.14	37,108	8.26	96.85
VERMONT	608,827	858	0.14	5,217	16.45	62.19
VIRGINIA	7,078,515	48,815	0.69	261,025	18.7	138.19
WASHINGTON	5,894,121	23,992	0.41	322,335	7.44	192.41
WEST VIRGINIA	1,808,344	2,856	0.16	9,434	30.27	44.17
WISCONSIN	5,363,675	12,665	0.24	88,763	14.27	83.18

Source: All data is compiled from, IAPCA: The Indian American Center for Political Awareness. *Participation by the Indian American Community in American Democracy*. Available [Online]: <<http://www.iacfpa.org/>> [4 August 2004].

Distribution in the United States

As seen in Table 30, the population of Indian American community has grown in all states of the America from 1990 to 2000. In 2000 the state of Illinois had the highest geographical concentration, but in 2004, Texas replaced it at the fourth highest state. As per 2004 records, the top ten states of residence are:

1. California	100,182
2. New York	64,926
3. New Jersey	58,999
4. Texas	40,583
5. Illinois	31,632
6. Florida	31,173
7. Michigan	21,533
8. Massachusetts	21,475
9. Virginia.	18,177
10. Ohio	15,662

The highest concentrations of Indians can be found in the cities of:

1. New York, NY
2. Chicago, IL
3. Los Angeles, CA
4. San Francisco, CA
5. Washington, DC

These concentrations in the metropolitan areas of the United States have brought for Indians fabulous personal and professional successes. Broadly falling into three groups of professionals, businessmen, and students & researchers (in the high-technology fields), their interaction with American communities has rendered close and positive relations between them. Many have found employment in these areas, and in the case of Silicon Valley have provided employment to the local people.⁸

⁸ AnnaLee Saxenian, *Silicon Valley's New Immigrant Entrepreneurs* (San Diego: University of California, 2000).

Education and Occupation

The educational achievement and economic status of the Indian American community is perhaps the most important feature that they possess. The large and high-profile presence of Indo-Americans in the information technology (IT) and health sectors, the number of CEO's of Indian origin in multinationals, and their presence in the world of international finance and management consultancy has created a new image for them enabling them to strengthen their position both vis-à-vis their county of residence, the United States, as well as their country of origin, India. According to the U.S. Census Bureau:

- More than 87% of Indians in America have completed high school;
- At least 62% have some college education;
- As much as 58% of Indian Americans over the age of 25 hold a bachelor's degree or higher (compared to 21.5 percent of whites);
- High levels of education have also enabled Indian Americans to become a productive segment of the U. S. population, with 72.3% participating in the work force;
- Of these work force participants, 43.6% are employed in managerial and professional specialties;
- Technical, sales, and administrative support occupations constitute another 33.2% of the work force;
- The remaining 23.3% of the population works in other areas, such as operators, fabricators, laborers and precision production;
- More than 5,000 Indian Americans today serve as faculty members in institutions of higher education in the U. S.;
- About 300,000 Indian Americans work in technology firms in California's Silicon Valley. They account for more than 15% of high-tech startups in that region.

In 2000, roughly 80 % of two groups: (1) all Asians; and (2) all people in the United States 25 years and older, had at least a high school education. Within that, a higher proportion of Asians (44 %) than of the total population (24 %) had earned at least

a bachelor's degree. Among Asians, Indians had the highest percentage with a bachelor's degree (about 64 %). In contrast, about 60 % of Hmong, and about half of Cambodians and Laotians, had less than a high school education. Japanese had the highest proportion (91%) with at least a high school education (see Figure 17). Asians (about 45%) were also seen as more likely than the total population (about 34%) in the United States to be in management, professional, and related occupations. However, the proportions employed in these jobs varied from 13 % for Laotians to 60% for Asian Indians. Less than 20% of Cambodians, Hmong, and Laotians were employed in management, professional, and related occupations, and more than 35% were employed in production, transportation, and material moving jobs. 26 % of all Thai, compared with less than 15% of Asian Indians, Chinese, Japanese, and Pakistanis, were employed in service jobs (Figure18).

Income

By the early 1970s, the small but influential Indian minority (not even recognized by their own governments), were estimated at having the highest per capita income of any ethnic group in the United States. As early as 1980, the median family income of an Indian in the US, according to the census of that year, was \$25,644 per annum – at a time when the median income of white American citizens was \$20,800. In 2002, the median income had jumped up to \$60,000 for an Indian as compared to others.⁹ According to Figure 19, the median income of Asian families was over \$9,000 higher than the median for all families (\$59,300 compared with \$50,000). Asian Indian and Japanese families'

⁹ U.S. Census Bureau, *We the People: Asians in the United States 2000*, U.S. Census Bureau Report (Washington D.C.: Census Bureau), 7-15.

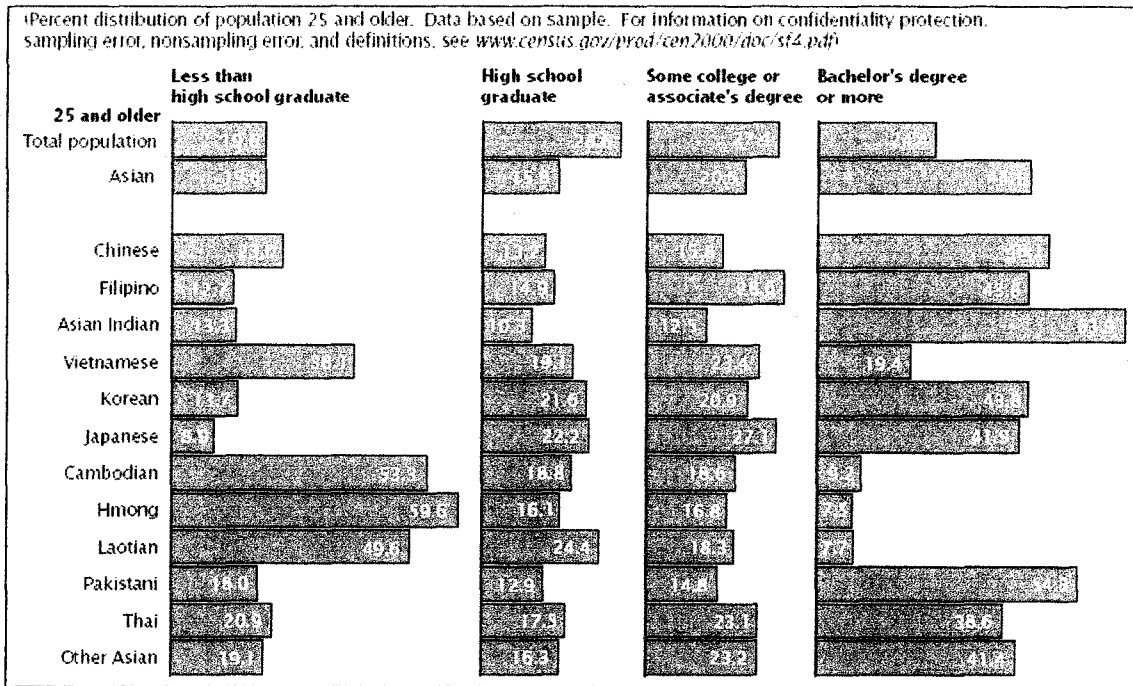


Figure 17. Educational Attainment for Different Asian Groups: 2000

Source: U.S. Census Bureau, Census 2000 special tabulation

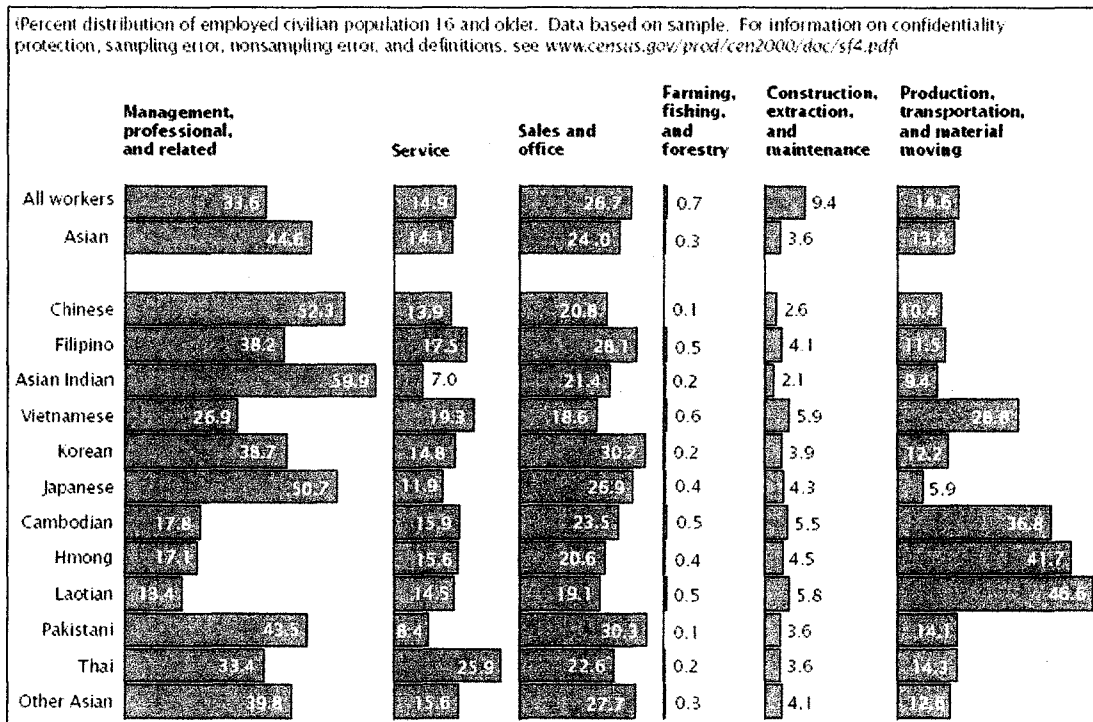


Figure 18. Occupation for Different Asian Groups: 2000

Source: U.S. Census Bureau, Census 2000 special tabulation

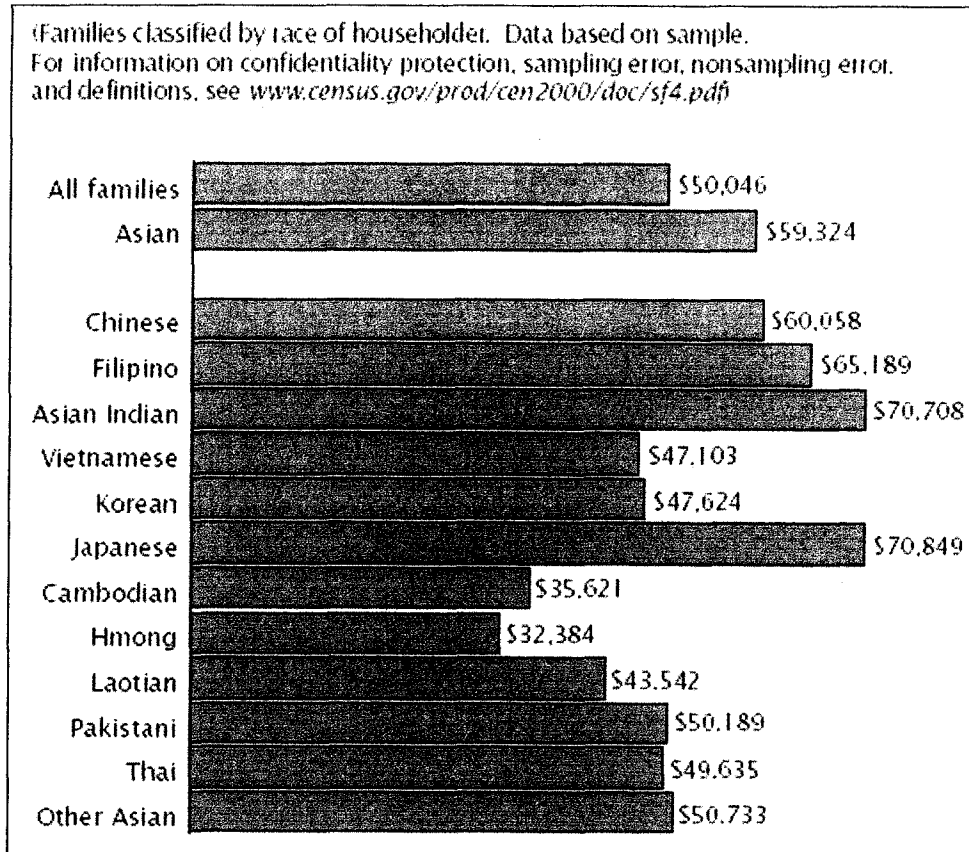


Figure 19. Median Family Income for Different Asian Groups: 1999

Source: U.S. Census Bureau, Census 2000 special tabulation

median incomes were more than \$10,000 higher than that of all Asian families.

Cambodian, Hmong, Korean, Laotian, Pakistani, Thai, and Vietnamese median family incomes were substantially lower than the median for all Asian families. The median incomes of Hmong and Cambodian families were the lowest of all Asian groups (\$32,400 and \$35,600, respectively).¹⁰

Based on some of these statistical profiles, the US census bureau, in its report titled, "We the People: Asians in the United States 2000", labeled the Asian Indians as a 'model minority' based on the various statistical findings in the report.¹¹ These trends suggest important implications for the role of the Indian diaspora in both sending and receiving countries.

INFORMATION TECHNOLOGY (IT) AND OTHER INDUSTRIES

The early Indian hand in founding what is today some of the largest and most successful IT firms are common knowledge. The technological renaissance in America is full of names that can be traced back to the Indian origin. The years 1995 and 1997, in particular, saw a growing momentum of Indian entrepreneurship in the United States. Many Indian professionals in their thirties, forties and fifties were heard of throwing up their secure jobs in companies such as Cisco, Microsoft, Intel, Apple, or IBM to start their own companies. For example, Desh Deshpande quit Motorola and founded a start-up called Cascade Communications and soon others like Hewlett-Packard's Kumar Malavalli and Xerox PARC's Pradeep Sindhu followed him from the corporate ladder

¹⁰ U.S. Census Bureau, 16.

¹¹ Ela Dutt, *Census Report: Asian Indians Lead Asian Minority on Socio-Economic Indicators*, (January 2005). Available [Online]:< http://www.iacpa.org/p_news/nit/iacpa-archieve/2004/12/31/censusbureau1-31122004.html >[23 September 2005].

onto the entrepreneurial route. Another visible trend had been that of Indians funding other Indians. Although success stories in the IT industry is full of Indian names and icons, some very successful immigrant stories will be enumerated below.

Sabeer Bhatia, “hot male (hotmail): a simple idea + nerves of steel = \$400 million,”¹² has in his own words, described his success as a defining immigrant story. Sometimes undervalued as a chance achievement (since it was all about somebody or the other would have come up with it sooner or later), is clearly the poster boy for Indians in the high-tech boom. Although the story of Vinod Khosla, famous venture capitalist (VC) and co-founder of Sun Microsystems, is bigger in range and depth, nobody really cared about Indians in the US until the ‘Sabeer story’ came out. The very idea of a twenty-six year old battling against the world’s biggest monopoly, Microsoft, and getting \$400 million for his efforts captured the imagination of a generation. Ironically, Sabeer’s triumph spread on the very vehicle he had fine-tuned – the e-mail.

Sabeer’s age (twenty-six when he started hotmail), the short time in which he popularized it, and the speed with which he clinched a deal with the world’s most aggressive company, Microsoft, made him an icon in the field of IT. Hundreds of Indians, taking his lead started securing jobs in IT. Overnight, Sabeer Bhatia became the epicenter of the Internet revolution. One would like to ask the simple question, why a revolution? The answer to that question is also very simple. It all goes back to the idea behind hotmail. The brilliance of hotmail lays its very simplicity. An e-mail service that

¹² This is the title of the third chapter in the book by Chidanand Rajghatta, *The Horse that flew: How India’s Silicon Gurus Spread Their Wings* (New Delhi: Harper Collins, 2001).

would not go through paid Internet Service Provider.¹³ Although there have been many names just before or after Sabeer Bhatia, none of the ventures of the time managed to attain the height and popularity of Hotmail. With the e-mania ebbing and flowing in the United States, Sabeer also transferred some of his work to India. In September 2000, he backed his father Baldev Bhatia and lawyer cousin Naval Bhatia to unveil ‘*waqalat.com*’, an India law portal. Eventually many of Sabeer’s investments, even in Silicon Valley, came to acquire Indian connections.

An equally important icon, Vinod Khosla,¹⁴ co-founder and first chief executive of Sun Microsystems¹⁵ is regarded by many as the greatest VC of all time. Vinod Khosla’s evolution into a Silicon Valley icon and entrepreneurial legend came at a time when Indians in the United States were more accustomed to becoming general managers or vice presidents of a division after decades of service. As mentioned by a Business Week article,¹⁶ Khosla, an electrical engineering graduate from IIT Delhi, was among the first to understand that Internet technology and fiber optics could make communications fast, cheap, and easy to install and that it would unleash a tsunami of productivity growth. He also made key contributions to the early growth of two other IT flagships; database

¹³ A good example here would be America Online (AOL) for which one had to pay \$29.95 a month. Mostly people could access this from their home computers. Hotmail, in contrast, was a freebie that one could access on any computer that was linked to the ‘world wide web’. It soon earned a reputation of being a standardized service, almost like using an ATM or a parking lot.

¹⁴ Vinod Khosla is a partner in the venture capital firm Kleiner Perkins Caufield & Byers. He was a co-founder of Daisy Systems and founding Chief Executive Officer of Sun Microsystems where he pioneered open systems and commercial RISC processors. Khosla serves on the boards of [Asera](#), [Corio Inc.](#), [Corvis Corporation](#), [BigVine.com](#), [Juniper Networks](#), Redback and [QWEST Communications](#), plus several other private companies.

¹⁵ Sun Microsystems is often described as the world’s only fully integrated computing company dealing with the chip, the operating system, and the hardware. In other words, it is like Intel, Microsoft, and Hewlett-Packard all rolled into one.

¹⁶ “Vinod Khosla,” *Business Week*, 15 May 2000.

giant Oracle, and Novell, the world's networking leader. Occasionally cited as the darling of the American business media, in early 2000, 'Wall Street Journal' called him the hottest hand in Silicon Valley. By October that year, 'Fortune' was wondering if he was the greatest VC of all time. In February 2001, 'Forbes' put him on cover in a story featuring the 50 most powerful dealmakers. The same month 'Red Herring' also featured him on its cover, labeling him as the number one VC on the planet.

Vinod Dham, considered as father of the Pentium, left his high-profile career in Intel after having successfully completed the Pentium project in 1995 at age forty-five. Today the Pentium and K-6 are among the most widely used chips in personal computing. Dham soon joined Nexgen after leaving Intel, which was a startup that was acquired by AMD later. After helping AMD seriously challenge Intel with its vastly popular K-6, Dham left AMD and joined 'Silicon Spice', a startup, and became its chairman, president, and CEO. Interestingly, Dham's co-worker on the Pentium project, another Indian named Avter Saini, heads Intel's operations in India.

Kanwal Rekhi, Novell's vice president and Chief Technology Officer, spearheaded its rise as the leader of IT networking. Rekhi's publicity stems from his becoming the President of 'The Indus Entrepreneurs (TIE)',¹⁷ an organization that has become the envy of every other immigrant group of entrepreneurs in the US. His biggest contribution has been that after he took over as President of TIE, he helped fuel Indian enterprise on an unprecedented scale. In fact, Sabeer Bhatia, Vinod Khosla, and Vinod Dham may have been the Indian superstars in Silicon Valley, but the man who gave

¹⁷ TIE chapters stretch from San Jose in California, US to Trinidad and Tobago. Members of the Indian diaspora from Fiji to Guyana clamor for a TIE chapter.

shape and substance to the collective Indian enterprise and melded it into a force is Kanwal Rekhi.

‘TIE’ has become instrumental in the success of many start-up companies,¹⁸ generating billions of dollars in wealth, and restoring respect and recognition to the Indian mind. Enlarged as a pan-Indian identity, TIE involves not just the Indian diaspora, but also other sub-continentals like Pakistanis and Bangladeshis. Often dismissed as mahatma-come-lately with an eye on the headlines, Rekhi holds a strong conviction that there is a feeling among Indians in America to give back to India, whether as a social investment or as charity.

Others, less public and prominent faces of Indian successes in the Silicon Valley, although not quite household names, have also laid the foundations of the computer revolution in the 1990s in America. These include:

- The world’s largest supply-chain management firm ‘i2 Technologies’ (founded by Sanjiv Sidhu);
- Chip innovator ‘Cirrus Logic’ (Suhas Patil);
- ‘B2B pioneer Aspect Development’ (Ramesh Wadhvani);
- Electronic design automation firm ‘Duet Technologies’ (Prabhu Goel, Centura Software (Umang Gupta); and
- ‘ACT Networks’ (Suresh Nihalani) – that went on to become the world’s largest independent provider of integrated frame relay access solutions.

Through the 1990s and since the turn of the century, the Indian presence in US software industry continues to strengthen unabated. By 1996 nearly half of the 55,000 temporary visas issued by the US government to high-tech workers had gone to Indians: in other words, Indian engineers in the US accounted for nearly as much as the rest of the

¹⁸ Its roster of success includes start-ups such as *Exodus Communications*, *Cybermedia*, *Junglee*, and *RightWorks*.

world put together. By the end of the decade, they accounted for no less than 20 percent of Microsoft's US employees,¹⁹ according to its chairman Bill Gates, and 25 percent of Cisco's, according to its chief executive, John Chambers.²⁰

In addition to the software industry, the Indian high-tech role also extends to new generation pharmaceutical firms such as Aviron, Theratech, and Xechem, chemical companies like Raychem, as well as the auto industry. Mohammad Zaidi, for instance, developed the first aluminum spaceframe for automobiles – used in Audi A8 and the Ferrari Modena, while Dr. Haren Gandhi of Ford Motor has won over 40 patents.²¹

The corporate world also boasts its fair share of Indians, some of whom are named below in Table 31. Currently, many Indians are running Fortune 500 companies in the United States. Some shining examples include Rono Dutta, who is the President of United Airlines; Rakesh Gangwal, president and CEO of U.S. Airways or, as consultants and securities analysts; and Calcutta-born Rajat Gupta, managing director of consulting giant McKinsey & Co.

Venture-capital fund company, Kleiner Perkins Caufield & Byers, one of Silicon Valley's biggest VC firms, says "forty percent of its portfolio consists of companies founded or managed by people of Indian origin."²² According to Suhas Patil, founder and chairman of semiconductor manufacturer Cirrus Logic (1999 revenues: \$564 million), who is now running an incubator company called Tufan, Inc. for Internet start-

¹⁹ "Microsoft's Gates says 20 percent of Engineers Indian," *Inquirer*, 1 November 2002.

²⁰ "Cisco to invest another \$50 Million in India," *Indian Express*, 18 January 2001.

²¹ Ford's Haren Gandhi Awarded National Medal Of Technology For Catalyst Research, Ford Motor Company researcher Dr. Haren Gandhi has won the 2002 National Medal of Technology for research, development and commercialization of automotive exhaust catalyst technology.

²² Anthony Spaeth, "The Golden Diaspora: Indian immigrants to the U.S. are one of the newest elements of the American melting pot--and the most spectacular success story," *India Today*, 19 June 2000.

Table 31. The Techie Tide – Vaulting the Corporate Ladders

COMPANY	NAME	TITLE
Adobe	Shantanu Narayen	Vice President, Corporate Engineering
Alcatel Telecom	Krish Prabhu	Chief Operating Officer
Air Touch	Arun Sarin	Chief Operating Officer
Alcoa	Mohammad A. Zaidi	Chief technical Officer
AT&T Wireless	Mohan Gyani	Chief Executive Officer
Aviron	Raysam S. Prasad	Vice President, Technical Affairs
Bradley Pharmaceuticals	Dileep Bhagwat	Chief Scientific Officer
Cable & Wireless	Gian Dilawari	Vice President
Cabletron	Piyush Patel	Chief Executive Officer
Cisco	Jayashree Ullal	Vice President
Computer Associates	Sanjay Kumar	President
Cray Research	Ven B. Rao	Director, New Technology Research Lab
Delphi Information	Robin Raina	President
Deneb Robotics	Rakesh Mahajan	Chief Executive
e.digital	Atul Anandpura	Vice President R&D
Ficon Technologies	Vivek Bansal	Chief Executive
GovCon.com	Raj Khera	President
Hanover Direct	Rakesh kaul	President
HP	Pradeep Jotwani	President and General Manager
Hughes Electronics	S. Radhakrishnan	Chief Information Officer
Microcircuits International	Arvinder Chadha	Vice President
Lawson Software	Pramod mathur	Vice President, Collaborative Commerce
Lucent Technologies	Basant Chawla	Director
Matthew Studio Equipment	Anil Sharma	President
Microsoft	Sanjay Parthasarathy	Vice President (Strategy and Business Development)

Continued

COMPANY	NAME	TITLE
Microsoft	Amar Nehru	Vice President (Corporate Development group)
Microsoft	S. Somesagar	Vice President (Windows Engineering group)
Neoforma.com	Bhagwan Goel	Vice President
Newbridge Networks	Satjiv Chahil	Vice President, Global Marketing
Nhancement Software Technologies	Ram V. Mani	President and Chief Technology Officer
Nortel	Krishna G. Kushwaha	Director, R&D (Access Networks)
	Shri Dodani	Director, Transmission Systems
Oracle	Jnah Dash	Vice President, Advanced technology
	Rahul Bardhan	Senior Practice Director, Advanced technology
Picture Tel	Vinay Kumar	General Manager
Planar Systems	Balaji Krishnamurti	Chief Executive
Qualcomm	Anil Kripalani	Senior Vice President
Ramp Networks	Raghu Bathina	Vice President, Broadband Unit
Raychem	Sanjay Kasturia	Director
Santa Cruz Operation	Alok Gupta	President
SDRC	Rajneesh Chopra	Director
SoftPlus	Mohan Uttarwar	President
SSE Telecom	S. Ram Chandran	Director Engineering
STMicroelectronics	Ravi Sundaresan	Senior Manager Advanced Technology Development
Symetricom	Murli Thirumale	Vice President
Thera Tech	Dinesh Patel	President
Viacom	Jayaram Balachander	Vice President Software Engineering

Source: This table has been taken from Ashutosh Sheshabalaya's, *The Rising Elephant: The Growing Clash with India over White-Collar Jobs and its Meaning for America and the World* (Monroe, Maine: Common Courage Press, 2005), 138-139.

ups, “Indians have one of the highest per capita incomes of any immigrant group in the U.S.” He further adds that it has been a credit to this country (America) that someone from a distant land could become a successful in business, bringing their own stamp of entrepreneurial effort.

Other Professionals of the Indian Diaspora

In addition to the IT industry, many Indians in the United States have been very successful in the media, liberal arts, and the academia. Jagdish Bhagwati, Fareed Zakaria, V.S. Naipaul, Shashi Tharoor, Late Kalpana Chawla, Deepak Jain, Meera Nair, Manoj Night Shyamalan are just some members of the Indian diaspora in fields other than information technology that have equally made their mark in different professional and entertainment fields. Noted for their excellence and creativity in various areas, their contributions in the Unites Stated have brought Indians to the forefront of many journals and magazine covers.

Professor Jagdish Bhagwati, currently a Professor at Columbia University and Senior Fellow in International Economics at the Council on Foreign Relations, has published more than three hundred articles and fifty volumes for which he has received several prizes and honorary degrees and writes frequently for internationally renowned newspapers and journals such as the New York Times, Wall Street Journal, Financial Times, New Republic and The Times. He is counted amongst the most creative

international trade theorists of his generation. His most recent book, 'In Defense of Globalization' has attracted worldwide acclaim.²³

In addition, Professor Bhagwati has been Economic Policy Advisor to the Director General GATT (1991-93) and has also served as a 'Special Advisor' to the United Nations on globalization and as an 'External Advisor' to the WTO. Bhagwati has made immense contribution to the 'brain drain' debate when he had come up with two volumes, as one collection, commentaries upon and back-up investigations on the brain-drain tax proposal.²⁴ These two volumes have stood for many years as milestones in economic study of migration and human capital. In addition he is recognized for his immense contribution to economic thought and for enhancing the understanding of India through his academic work.

Fareed Zakaria, the editor of *Newsweek International*, columnist of *Newsweek*, *Newsweek International*, and *The Washington Post*, and author of many books²⁵ has been described as "one of the most influential foreign policy advisor of his generation," and *Esquire* magazine named him "one of the 21 most important people of the 21st Century."²⁶ A classic case of 'brain drain', Zakaria was born in India and acquired his Bachelors' from Yale University (in History), and Ph.D. from Harvard (in International

²³ Professor Jagdish Bhagwati has been recognized and awarded at the 2005 awards given out at the 'Pravasi Bhartiya Divas' function that is held every year beginning in 2003. 'Pravasi Bhartiya' is the Indian name for Indians living abroad.

²⁴ See Jagdish Bhagwati and Martin Partington, and Jagdish Bhagwati.

²⁵ He is the author of *The Future of Freedom: Illiberal Democracy at Home and Abroad* (April 2003), a new book on global political trends, and *From Wealth to Power*, a provocative examination of America's role on the world stage, which has been translated into several languages. He is also co-editor of *The American Encounter: The United States and the Making of the Modern World*.

²⁶ Fareed Zakaria, *Biography*. Available [Online]: <<http://www.fareedzakaria.com/about.html>> [4 April 2005].

Relations). His fame and visibility grew, as he soon became the managing editor of *Foreign Affairs*²⁷ in 1992. Currently Zakaria offers political analysis on many television shows in the United States such as ABC's 'This Week'. Already at the pinnacle of success Fareed Zakaria at forty-one years of age, has been the recipient of numerous awards in the United States and abroad, including the Overseas Press Club Award, the National Press Club's Edwin Hood Award, the Deadline Club Award for Best Columnist, and a lifetime achievement award from the South Asian Journalists Association.

Shashi Tharoor, yet another success story of the Indian diaspora began his career with the United Nations in 1978 on the staff of the United Nations High Commissioner for Refugees (UNHCR) in Geneva. He was later made the Head of the UNHCR office in Singapore (1981-1984) during the peak of the Vietnamese "boat people" crisis. Currently he is Under-Secretary-General for Communications and Public Information and has led the Department of Public Information (DPI) since January 2001. In addition, he has been the author of eight books and numerous articles. He is also the recipient of several journalism and literary awards, including a Commonwealth Writers' Prize. Being an Non-Resident Indian (NRI) himself, Tharoor has written extensively on NRIs whom he describes as, "prodigal sons of a motherland they have left but not forgotten."²⁸ Conscious of the enormous potential and constructive contribution that NRIs can make to the motherland, Tharoor brings visibility to both the predicament and benefits that the Indian Diaspora represents.

²⁷ *Foreign Affairs* is a leading journal of international politics and economics.

²⁸ Shashi Tharoor, *India: From Midnight to the Millennium* (New York: Harper Collins Publishers, 1998), 158.

Born in Karnal, India and died on February 1, 2003 over the southern United States when Space Shuttle *Columbia* burned up sixteen minutes prior to its scheduled landing, Kalpana Chawla represents a monumental loss to: NASA; the United States; and India. After getting her Bachelors' degree in aeronautical engineering from Punjab Engineering College, India in 1982 she got her master of science degree in aerospace engineering from University of Texas in 1984. She also obtained a Doctorate of philosophy in aerospace engineering from University of Colorado in 1988. Kalpana having worked on various projects for NASA²⁹ became the first woman of Indian origin to be in space.

The year 2004 has undoubtedly been considered a fabulous year for the India-born in Hollywood, opening up a new aspect of the term soft power. Manoj Night Shyamalan's 'The Village' had made \$230 million as an initial count. Mira Nair's 'Vanity Fair', though not making enough box-office profits, was appreciated in all global circles for its multicultural subtext. Gurinder Chadha's \$18 million 'Bride and Prejudice' also created ripples at the box-office. Previously the director had been acclaimed for her last movie 'Bend it Like Beckham' in both the United States and the United Kingdom. Interestingly, India's engagement with the West in the entertainment sector had begun even before the Chinese. Ismail Merchant's *The Householder* had reached Los Angeles in the late 1950s.

Powerful and influential in their own arena, these men and women have been able to translate their dreams into reality and alter the behavior of other powerful people. Considered as underdogs for quite some time, Indians have been finding themselves

²⁹ A biographical information on Kalpana Chawla: Available [Online]: <<http://www.jsc.nasa.gov/Bios/htmlbios/chawla.html>> [4 April 2005].

increasingly influential and powerful, changing fortunes overnight. It can be said that Hollywood, the nerve centre of the global entertainment industry, has acknowledged the role played by people of Indian origin. Some accomplishments are listed below in Table 32.³⁰

The Indian immigrant community that was not sure of how it would be welcomed or treated in the United States some fifty years ago sings a different tune today.³¹ Today it comprises the “richest immigrant class in the United States, with nearly 200,000 millionaires.”³² According to a report by the US Census: “Asian Indians own nearly 40% of the hospitality properties and also own and run chains of mom-and-pop stores and newspapers stands around the country; 38% of doctors in the United States are of Indian origin; 34% of Microsoft employees are Indians; and 30% of the staff at NASA, trace their roots to India.”³³

By the mid-1980s, Indian professionals had begun to consolidate in different parts of the country, especially in the state of California. In fact by 1990, immigrants accounted for one-third of the scientific and engineering workforce in Silicon Valley with Indians and Chinese accounting for two-thirds of the region’s foreign-born engineers. By 1998, many Indian and Chinese engineers have become senior executives at one-quarter of Silicon Valley’s new technology businesses.

³⁰ Shilpa Rohatgi, “The Power 25,” *India Today*, 11 October 2004.

³¹ As late as 1935, signs on the doors of certain California establishments declared, “No Jobs for Japs and Hindus.”

³² Some facts that make India a compelling story for global fund managers. Arun Kantharia, *The Indian Paradox by CLSA Emerging Markets*, (June 2003). Available [Online]: <<http://www.indiaday.org/articles/articles2.asp#9>>[17 August 2004].

³³ U.S. Census Bureau, 18.

Table 32. Indian Diaspora Achievements in Popular Media and Movies

S. No	Name	Occupation	Claim to fame
1	Manoj. N. Shyamalan	Filmmaker	The collective box office gross of his last four movies in the US alone is over \$700 The Sixth Sense, grossed \$661.2 and garnered six academy award nominations
2	Gurinder Chadha	Filmmaker	Bend it Like Beckham, grossed \$50 million
3	Mira Nair	Filmmaker	Salaam Bombay (academy award nominee), Mississippi Masala and Monsoon Wedding (diaspora movies), Vanity Fair
4	Shekhar kapur	Filmmaker	Bandit Queen, Elizabeth
5	Ashok Amritraj	Film producer	Top echelons of Hollywood
6	Ismail Merchant	Producer, Director	Spokesperson for Indian entertainment since 1960s, The Householder, The Creation of Woman
7	Sanjay Gupta	Surgeon, medicine man for CNN	Part of the team that covered 9/11 tragedy
8	Kal Penn	Actor	Harold and Kumar go to White-castle

Source: India Today

Table 33. South Asian Candidates in 2004

 United States Senate

1. Chirinjeev Kathuria (R) lost the Republican nomination for the US Senate seat in Illinois. He received 0.8% of the vote."

United States House of Representatives

1. Rohit Khanna (D) lost the Democratic nomination in the 10th Congressional District California. He received 19.6% of the vote.
2. Peter Mathews (D) lost the Democratic nomination in the 37th Congressional District California. He received 16.1% of the vote.
3. Bobby Jindal (R) ran for the Republican nomination in the 1st Congressional district of Louisiana being vacated by Rep. David Vitter (R) and also ran for Senate. (<http://www.bobbyjindal.com/>)
4. Ayesha Nariman (D) running for the Democratic nomination in the 26th Congressional district of New York. (<http://www.narimanforcongress.com/>)
5. Tim Phillips (R) lost the Republican nomination in the 1st Congressional District Oregon. He received 24% of the vote.
6. Arjinderpal Singh lost the Democratic nomination in the 2nd Congressional District California. He received 28.4% of the vote.
7. Inam ur-Rehman (R) running for the Republican nomination in the 2nd Congressional district of Hawaii.
8. Sylvester Fernandez (R) ran for Congress in the 6th Congressional district of New Jersey against Congressman Frank Pallone (D).
9. A. D. Amar (R) ran for the 7th Congressional district of New Jersey.

State Level

1. Ash Bhatt (D) lost in the 20th State Assembly district of California. He received 3.3% of the vote.
2. Chonchol Gupta (R) lost the Republican nomination in the 70th State Assembly district of California. She received 1.0% of the vote.
3. Swati Dandekar (D) running for re-election in the 36th State House district of Iowa. (<http://www.swatidandekar.com/>)
4. Sreenivasa Dandamudi (D) running for the Democratic nomination in the 64th State House district of Missouri. (<http://www.sreenu2004.com/>)
5. Nikki Randhawa Haley (R) running for the Republican nomination in the 87th State House district of South Carolina.

Mayoral

1. Eduardo Bhatia (PDP) running for election as the Mayor of San Juan, Puerto Rico.
 2. Suchita Saigal lost in the race for Mayor of Fresno, California. She received 20.9% of the vote.
 3. Jayendra Shah lost Los Angeles County Supervisor - 4th District. He received 9.5% of the vote.
 4. Sanjiv Kapoor (G) lost County Council, County of Fresno, CA. He received 13.5% of the vote.
-

Source: Indian American Center for Political Awareness (IACPA)

POLITICAL CONNECTIONS THROUGH CAUCUS AND LOBBYING

The Indian American community, mostly represented in fields such as academics, medicine, law, engineering, financial consultancies, and information technology, earning a median income of \$60,093³⁴ have increasingly taken up a more direct role in political activities. This group of people who are multi-ethnic, multi-religious, and multi-lingual have translated this wealth and status acquired in their adopted countries into financial and political clout only in recent years. They have traditionally exercised the most political influence through their campaign contributions, and have been actively involved in fundraising efforts for political candidates on the federal, state, and local levels. On many occasions, they have mobilized their opinion on important issues and played a crucial role in generating a favorable climate of opinion in the Congress by defeating anti-Indian legislations there, and lobbying effectively on other issues of concern to the Indian community. They have demonstrated willingness to contribute financially to Indian causes such as relief for natural disasters and other charitable causes back home.

In the last two decades, the Indian Diaspora worldwide has seen the transformation of its members from humble migrants in a foreign country to holding high posts in politics, universities, and industries as elected leaders, politicians, eminent professors, and other professionals. One of the best examples is Bharrat Jagdeo (born 1964) who is the socialist president of Guyana. Mr. Bharrat Jagdeo, who is of Indian origin, shares great linkages between the country of origin and his country of

³⁴ Ibid, 12.

settlement.³⁵ In the United States recently, the nomination of Bobby Jindal, an Indo-American, for the post of Governor in the state of Louisiana, USA during elections in November 2003 was a big landmark for the Indian community. Though he was not elected, Jindal became the youngest Governor nominee in the nation.³⁶

The 'Indian American Center for Political Awareness' (IACPA) records the list of South Asian candidates for the 2004 elections in the United States. This is presented above in Table 33 above. This type of political achievement and recognition has coincided, especially in the last decade, with the emergence of India as a strong economic, social, and nuclear power. After a decade of economic reforms, India has emerged as a modern society, with a key role to play in the information technology (IT) industry, has helped to change the image of the Indian Diaspora globally. It is no longer considered as an economically disadvantaged, silent minority in many of the lands of its permanent settlement. It has even started playing a role in molding public opinion in them.

Many believe that the Diaspora can contribute to the Indian economy in ways that the Indian government cannot. Overseas Indians can and have played multiple roles in contributing towards India's development. Most members echo their warm memories

³⁵ See speech: Bharrat Jagdeo, *Second PBD Event Held in Delhi*, (2004). Available [Online]: <<http://sultanpur.nic.in/PresJagdeo.htm>> [15 February 2004].

³⁶ Bobby 'Piyush' Jindal, a Republican candidate for the post of Governor in the state of Louisiana, handsomely defeated his nearest rival Kathleen Blanco, a Democratic and Louisiana Lieutenant Governor, in the primary runoffs. At 32 years of age he has been a Rhodes scholar, a consultant for McKinsey, the head of Louisiana's Department of Health and Hospitals, the executive director of the Breaux-Thomas Commission on Medicare Reform, president of the University of Louisiana system, and an assistant secretary of the federal Department of Health and Human Services.

and willingness to participate in India's future. Parag Khanna³⁷, a 'second generation' Indian specializing in U.S. - India relations, ranging from the political mobilization of Indian Americans to Indian foreign policy, believes that using the Diaspora would be a useful contribution for development in India, in fact he compares the contribution to that of foreign companies in India.

Besides contribution towards the home country, members of the Indian Diaspora play important roles in mobilizing political support for issues of vital concern to Indians in their new adopted countries. The United States of America, Canada, and the United Kingdom are examples of that pro-active role. Because of their increasing economic strength, they have become well situated to play a pivotal role in energizing and augmenting bilateral trade, investments, transfer of technology, and tourism with their countries of settlement.

The 'Indian-American Forum for Political Education' (IAFPE)³⁸ has made many achievements, such as establishing an effective bipartisan liaison with the Democratic and Republican National Committees and opening communication channels between Indian Americans and the White House executive agencies, including the U.S. State Department. The objective of such an organization is to provide a platform whereby members of the Indian community can reach out politically to their United States

³⁷ Parag Khanna, manager of the World Economic Forum's Global Governance Initiative at Brookings Institution, Washington, D.C. Khanna, who is on secondment as Senior Research Analyst to the Brookings Institution, a Washington based think tank, was born in Kanpur (India) and brought up in the United States and Europe and has authored several articles in reputed American publications including *The New York Times*, *Policy Review*, *Georgetown Journal of International Affairs*, and *The New Statesman* (Britain)

³⁸ Their basic mission has been to empower Indian Americans politically by raising civic consciousness and increasing participation in community affairs and the mainstream political process.

counterparts. As enumerated by the IAFPE, the *objectives* of the Indian Diaspora in the United States can be broadly enumerated as:³⁹

- a. Enhancing political awareness, involvement and civic responsibility among Indian Americans.
- b. Promoting voter registration and encouraging Indian Americans to exercise their rights to vote and to run for public office.
- c. Identifying issues of concern to Indian Americans and pursuing solutions within the political system.
- d. Facilitating and promoting ongoing Indo-U.S. relations

In these objectives, of particular interest to this research has been the last point of *facilitation and promotion of Indo-US relations*. Many other Indo-American political organizations are also actively reaching out to their Washington representatives, at the micro level. The ‘American Association of Physicians of Indian Origin’ (AAPI), the ‘Indian American Friendship Council’, the ‘Asian American Hotel Owners Association’, and similar groups host legislative conferences in Washington each year, where prominent U.S. lawmakers are invited to address. Many of the TiE functions are well attended by members of the Senate and Congress throughout the United States. Normally a lot of information is shared through these informal meetings and get-togethers.

This linkage is better explained with the help of Figure 20, that links all these points to give a clear picture of how the strength of this Diaspora can be converted to India’s advantage and negate brain drain with some gain to the sending country. These are gains are both economic and political.

³⁹ IAFPE: Indian American Forum for Political Education, *Joint Forum*, (2004). Available [Online]: <<http://www.iafpe.org/php/showForums.php?linkid=1>> [23 September 2004].

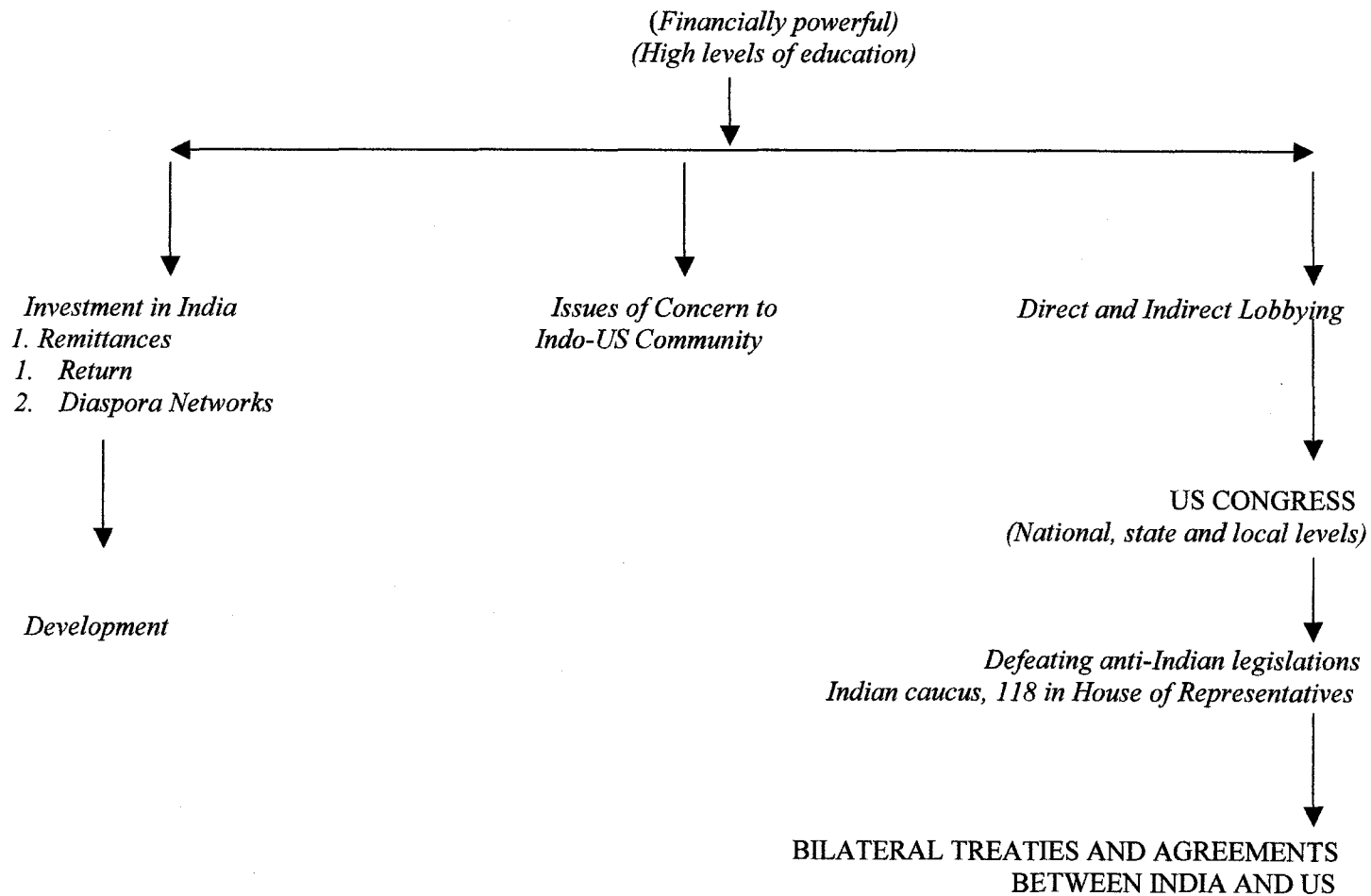


Figure 20. Indian Diaspora and Political and Economic Gain

Direct and Indirect Lobbying: The Election Years

The Indo-American community is relatively evenly distributed throughout the country and few congressional districts are without at least a handful of Indian American families. The largest concentrations, however, reside in the major industrial-urban states of New York, New Jersey, California, Pennsylvania, Michigan, Ohio, Illinois, Texas, Florida, and Massachusetts as seen from table 6.1. On the whole, the community avoids identification with either of the major political parties and gives generously to both the Republicans and the Democrats.

For the 1992 elections, Indian Americans raised \$4 million on behalf of political candidates; six years later, this figure had almost doubled to \$7 million.⁴⁰ Undoubtedly, the total for the 2000 and 2004 elections was higher still.

The 2004 presidential elections “marked the coming-of-age for the two million Indo-Americans, not only in terms of their fundraising acumen for both Republican and Democratic parties, but more with regard to their participation at the grassroots level.”⁴¹ In addition to the money power of the community, they also played their role in swinging the verdict in favor of Bush, especially in Florida, where the affluent community of doctors backed Bush to the hilt (Table 34). Notwithstanding these facts, Indians had also been equally active in supporting Kerry during the Presidential campaign through large monetary donations. It became obvious for any observer that the ‘first-generation Indian immigrants’ were clamoring for political clout for their interests in the United States, and that of their home country India. The Indian community was especially committed

⁴⁰ Miles A. Pomper, *Indian-Americans: Numbers, Affluence Are Translating into Political Power*, (Washington D.C.: Congressional Quarterly, 2000), 580.

⁴¹ Ramesh Vinayak and Shefalee Vasudev, “The Right Karma,” *India Today*, 15 November 2004.

Table 34. Top Six Fundraisers for Bush: Election Campaign 2004

Raghavendra Vijayanagar \$ 200,000	Heart Surgeon	Founder of the Indian American Republican Council; is hopeful that Indian-Americans will get a big-ticket role in Bush's second term
Raj Vattikuti \$ 188,883	Covansys founder	Supports Bush as he believes the Republican Party is 'more oriented to business' and because he has done the most in furthering Indo-US ties
Zach Zachariah \$ 91,951	Cardiologist	A front-ranking fundraiser for the Bush campaign; believes that the Indian-American community can influence lawmakers to strengthen Indo-US ties
Sampat Shivangi \$ 51,000	Physician	A senior office bearer of the Indian American Republican Council, at the forefront of the Indo- American lobby groups, is pro-Bush also for his support of India
Akshay Desai \$ 45,550	Physician	Chairman of the Council for Education Policy, research and improvement for the state of Florida and was appointed to this position by Governor Jeb Bush.
Sudhakar Shenoy \$ 44,500	Entrepreneur	A frequent speaker in the IIT and business process re- engineering areas, serves, on many regional/statewide boards and commissions.

Source: India Today

towards the Bush administration as Bush was seen as best suited (for the job) given his commitment to push through a federal legislation curbing medical malpractice suits.

The four years from 1982 to 1986 was very significant in the political life of people of Indian origin in America. During this period, many political organizations helped to bring together Indian American leaders to a common platform and assisted them in identifying Indo-American community issues for the review and understanding of the White House, the U.S. Congress, state-level governments, the Democratic National Committee, and Republican National Committee. Their major initiatives and achievements can be summarized below:

1. Preservation of Immigrants' Rights
2. White House Recognition of Indian-Americans
3. Successful Congressional Contacts
4. Formation of the Asian American Voters Coalition (AAVC)
5. Impact Making Voter Registration Drive
6. Speaking for Healthcare Professionals
7. Building a National Network of all Indian American Associations
8. Strengthening Indo-US Relations
 - a. Working with Indian Government Officials
 - b. Working With American Government Officials
9. Leadership in Asian American Civil Rights Issues
10. Bipartisan Liaison with Political Parties

The promotion of Indo-US relations were deemed most crucial to the success of the IAFPE and other such political organizations. This includes working with government officials on both the Indian and the American side. Additionally, issues such

as the property rights of Indian Americans in India, their travel-related problems, concern for their families' interests in India, educational programs, and business-related matters have dominated the agenda. Philanthropic acts are also included prodding the United States in stepping up its aid to India on specific events. One such occasion was the terrible Bhopal tragedy that occurred in December 1984 due to the gas leak from Union Carbide's plant controlled by an American company in Bhopal, Madhya Pradesh State, India.⁴² Recently, their efforts have rendered economic aid to natural disasters such as the tsunami (south India) and the earthquakes in Gujarat and Kashmir. On matters more close to them, these organizations have also been able to bring several hardship cases relating to non-immigrant and immigrant visa applications of Indian American family members to the attention of the State Department and U.S. Embassy and Consulate offices in India. In many instances, favorable decisions have been made.

In recent times this power has been translated as large communities holding key economic and political positions. For instance, the massive Chinese and Indian expatriate communities in the United States - 2.4 million and 1.7 million respectively - play a critical role in promoting the political and economic interests of their home countries. Both have powerful lobbies in Washington. "The Indian community, which is now America's richest ethnic minority, has become particularly effective in influencing US policy toward South Asia."⁴³ Although not as significant or dramatic, the repercussions of countries such as India and China exploding into the American cultural imagination could be as significant as the explosions that blasted them into the nuclear club.

⁴² This briefing was the first time the Administration had invited Indians in the United States to tell them exclusively of the Administration's response to a specific incident in India. There have been general routine briefings, but here was a specific incident being addressed.

⁴³ See Jehangir Pocha, 1-30.

Recognition of India's soft power can be traced back to Clinton's visit to India in 1998. Not only was it symbolic of Washington's recognition of India's newfound status after its nuclear tests (India is now a major power because of its nuclear capability), but also because United States was now looking at India as its largest market. In all, this was probably the most extensive and successful visit to India by a US President, made more so by a decision by both sides to avoid the proliferation roadblock and concentrate on the expansion of the broader relationship. Even on proliferation issues, the U.S. appeared convinced by India's commitment to 'no more tests', 'no first use of nuclear weapons, and controls on the transfer of sensitive technology'. For most theorists, this signaled the melting of the ice in the Indo-US relations that had been frozen for fifty years in the contours of the Cold War.

By the time the Indian Prime Minister Atal Behari Vajpayee returned the visit in September 2000, the Indian presence in the United States economy had been very evident with Clinton talking about India's infotech prowess in almost every speech he made. It became a foregone conclusion that the Indo-American community had great leverage in the United States economy and the time had definitely come to further this as mutually advantageous to both countries. The Diaspora was also influential in bringing about the relaxation of sanctions that had followed nuclear tests in 1998. Recently, United States Senator John Cornyn, a Texas Republican, who is the founder and co-chair with Senator Hillary Rodham Clinton, New York Democrat, of the 'Friends of India Caucus' in the US Senate, has begun a lobbying effort to garner support among his colleagues for the US-

India civilian nuclear agreement that has virtually hit a brick wall in Congress.⁴⁴ To some extent, this can be viewed as a turning point in the power relations between the two countries since the less powerful country was now using its 'soft power', "people" to change policies and outcomes.

Washington banquets, famous for diplomatic maneuvering among politicians and business people was busy entertaining heavyweights Indo-Americans such as McKinsey's Rajat Gupta, Citibank's Victor Menezes, and United Airlines' Rono Dutta and other ex-IITians⁴⁵ such as Vinod Khosla, Vinod, Dham, Sabeer Bhatia among others. At the time of the visit, the Indian presence in the United States IT sector had been so prominent that many Indian 'techies' of the West Coast (California) had accompanied Clinton on his visit to India. These included Sun's Anant Agarwal who had designed the Sparc microprocessor and Bell Labs' Arun Netravalli.⁴⁶ Throughout his visit Clinton was full of glowing reports and references to the role of Indians and their contribution to the American economy. In addition, Clinton also appointed Raj Reddy, a Carnegie Mellon academic, to head his task force on Information Technology, and named the chipmaster Vinod Dham, to the Advisory Commission on Asian Americans and Pacific Islanders.⁴⁷

Subsequently, during his visit to India, President Clinton and India's Prime Minister Atal Bihari Vajpayee on 21st March 2000 resolved to 'create a closer and qualitatively new relationship between the United States and India and signed a joint

⁴⁴ Aziz Haniffa, *US Senator Defends Indo-US Civilian Nuke Cooperation*, (November 2005). Available [Online]:<http://www.indianembassy.org/India_media/Nov_05/RE1.htm>[29 November 29 2005].

⁴⁵ India Institution of Technology (IIT) represents the best science and computer academic institution in India.

⁴⁶ Chidanand Rajghatta, 35.

⁴⁷ *Ibid*, 35.

statement on bilateral relations entitled *US–India Relations: A Vision for the 21st*

Century.⁴⁸ The ‘agreed principles’ on institutional dialogue included many topics of equal importance for both the sending and receiving countries. These included:

- Regular India–US ‘summit’ meetings;
- An annual foreign policy dialogue between the Secretary of State and the Minister for External Affairs;
- The continuation of the ongoing Dialogue on Security and Non-Proliferation between the Deputy Secretary of State and the External Affairs Minister;
- The Joint Working Group on Counter-terrorism would continue to meet regularly;
- The institutionalization of a bilateral economic dialogue;
- The creation of a Joint Consultative Group on Clean Energy and Environment and
- The setting up of the US–India Science and Technology Forum to promote research and development and the transfer of technology.

It had been in fact the last point mentioned above, ‘*the setting up of the US–India Science and Technology Forum to promote research and development and the transfer of technology*’ that proved to be the most defining part of the bilateral relationship. The economic and trade aspect of the visit went off more successfully with some US\$2 billion worth of commercial agreements and US\$1 billion in US export-import financing being finalized. Most of the agreements related to the information technology (IT) sector in which India’s exports had been growing at a rate of 50% a year, with about two-thirds of them going to the United States. With the visit of Prime Minister Manmohan Singh to Washington in July 2005, new rounds of trade agreements have emerged between the two countries. The visit of George Bush to India in March 2006 has culminated the process with ‘nuclear deals’ between them.

⁴⁸ Indian Embassy. *Indo-US Relations: A Vision for 21st Century*. Available [Online]:<www.indianembassy.org>[3 September 2004].

It is generally argued that policy decisions in future, being more domestic than foreign, would depend to a large extent, on flow of goods or people and the leverage they could exert on bureaucrats and congressmen in the host countries. Here, Diaspora networks play an important role in pushing forward their issues and those of their home countries, on the Congressional agenda. Too often, foreign policy is seen as formulated by the executive branch of the government. However, Congress, private sector institutions, and lobby groups are fairly effective in developing the consensus needed for an effective foreign and economic policy. Joseph Nye identifies two main roles that the Congress plays in these interdependent issues. “First, congressional activity helps to legitimize the hard-offs involved in many of these issues, and second, congressional hearings provide for structured public involvement. Usually this includes the participation of a broad range of groups including scientists, professionals, and special interest organizations such as Diaspora communities.”⁴⁹

To this effect, a new caucus was formed in the U.S. Senate, called the “Friends of India” that pledges to promote and defend unlimited outsourcing to India and to support the expansion of guest-worker visa programs such as H-1B and L-1. The Indian Diaspora community worked hard to push for the Senate Caucus since the Bush administration was seen as having gone totally overboard in its support and promotion of the military dictatorship of Pakistan. There was also concern in the community over the unexpected backlash against India over the issue of outsourcing.

⁴⁹ Joseph S. Nye, 164.

Listed below is a partial list of the caucus members who are some of the most powerful and influential lawmakers in the Senate.⁵⁰

Republicans:

John Cornyn (TX) is the leader of the 'Friends of India'
 Bill Frist (TN)
 Orrin Hatch (UT)
 Charles Grassley (IA)
 Thad Cochran (MS)

Democrats:

Hillary Clinton (NY) is co-chair of the 'Friends of India'
 Thomas Daschle (SD), not on the Senate anymore
 Paul Sarbanes (MD)
 Joe Lieberman (CT)
 Edward M Kennedy (MA)

These developments open possibilities that were unimaginable just ten or twenty years ago. While it may be true that an increasing bilateral trade relationship between the two countries developed largely due to the change in Indian economic policy since 1991 and the growing size of India's middle-class consumer markets: America and American corporations became more interested in India after the Indo-American community achieved paramount successes and brought visibility to their country of origin. Although the two countries have had recent fallouts on many issues (such as terrorism, the war in Iraq and India's refusal to send troops, international trade issues, declaration of Pakistan as Non-NATO ally of United States), both countries have refused to let their differences derail the progress of their bilateral relations.

The Indian-American community by organizing themselves along political lines, have raised money for their favorite candidate, got recognition as a separate ethnic

⁵⁰ Rob Sanchez, *Friends of India Created in Senate - No. 984*, (April 2004). Available [Online]:<
<http://www.zazona.com/shameh1b/JDNewsArchive/2004/2004-04-12%20Friends%20of%20India%20Created%20in%20Senate.txt> >[29 November 2005].

category on the census forms, influenced the relaxation of sanctions following nuclear tests in India in 1998, and have created a reverse dependency relationship of sorts with the United States.⁵¹ However, since they are residentially dispersed, they do not form powerful voting blocs and primarily use their campaign contributions to get desired results in some sectors where individuals and associations influence U.S. policy towards India. The points of differences between the two countries have been softened to a large extent by the transformation of the Indian economy, beginning in the 1990s, and also by the visibility and presence of the Diaspora community in the country of residence. It is this new perception of India that has rippled through the bureaucracy and the Congress. American corporations, with a high degree presence of Indians in high posts, now actively lobby Congress for legislation favorable to the region.

The question that needs to be addressed here is: if better economic ties create important political dependencies through ‘lobbies’ in both countries, how does this change India’s relations with United States? And what can be said of the power dynamics between the two countries.

SOFT POWER, MIGRATION, AND BRAIN GAIN

The changing nature of power between two countries has always been interesting since power is multidimensional and changes from actor to actor in specific issue areas. Much has been written about ‘hard power’ and ‘soft power’ in international relations jargon. Joseph Nye defines soft power as the ability to get what you want by attracting and persuading others to adopt your goals. It differs from hard power as the ability to use

⁵¹ It is premature for Indians to envision the kind of reverse dependency relationship that China has achieved with the United States.

the carrots and sticks of economic and military might to make others follow your will. Although both hard and soft powers have been important in war, attraction seems much cheaper than coercion, and an asset that needs to be nourished.⁵²

India's search for a major power role has gained new proportions since it conducted nuclear tests in May 1998. India's foreign policy too, after the tests, has been driven by the desire to achieve a major power-status in world affairs. However, as correctly pointed out by Nayar,

“The convergence and divergence among the existing major powers over the question of a new entrant is likely to depend on the degree of polarization and the type of alliance patterns in the international system, and the manner in which their interests are affected by the acceptance of that entrant into their ranks.”⁵³

Based on many indicators, it can be argued that the role India will play in global affairs will give it a major power status and India's highly skilled entrepreneurial Diaspora will play a leadership role on the basis of soft power, defined in terms of educational, affluence, and entrepreneurial appeal rather than hard power defines in terms of economic and military capabilities.⁵⁴ Thus important questions that need to be asked are: What strengths would change India's status in the relationship with the US and give it leverage? To what extent can international migration and role of the Diaspora achieve that end?

⁵² Joseph S. Nye, “Propaganda Isn't the Way: Soft Power,” *International Herald Tribune*, 10 January 2003. Joseph Nye is dean of Harvard's Kennedy School of Government and author of: *The Paradox of American power: Why the World's only Superpower Can't go it Alone* (Oxford: Oxford University Press, 2002).

⁵³ Baldev Raj Nayar, *India in the World Order: Searching for Major Power Status* (Cambridge, New York: Cambridge University Press, 2003), 1.

⁵⁴ Joseph S. Nye, *Bound to lead: the Changing Nature of American Power* (New York: Basic Books Incorporation, 1990), 191.

Soft Power and the Indian Diaspora

Until recently, soft power was largely an American weapon. Washington learned to wield its soft power as intelligently as its hard, or military and financial might. In his recent book, *The Paradox of American Power (2001)*, Nye takes the analysis of soft power beyond the United States to suggest that other countries could also acquire it. According to him, three types of countries in today's information age are likely to gain soft power and succeed. These are: "(a) those whose dominant cultures and ideals are closer to prevailing global norms (which now emphasize liberalism, pluralism, autonomy); (b) those with the most access to multiple channels of communication and thus more influence over issues that are framed; (c) and those whose credibility is enhanced by their domestic and international performance."⁵⁵

Applying these dimensions to India produces some similarities with it. India's democratic political system brings it closer to the world community of democratic countries. Since India's meta-stable democracy provides governments the legitimacy to make tough decisions, its leadership has invested heavily in IT and other communication industries. Looking beyond spiritualism, religion and culture, India's 'soft power' currently considers its Diaspora as its biggest instrument. Most visible in the 'IT' industry, India fits best with the idea of a country whose credibility has been enhanced by both its domestic and international performance in the information technology (IT) industry.

In the new information-based economy, developed economies of the world increasingly rely on the creation, distribution, and use of information and knowledge.

⁵⁵ Joseph S. Nye, *The Paradox of American power: Why the World's only Superpower Cant go it Alone* (Oxford: Oxford University Press, 2002), 69.

The United States is no exception. More than half of the total GDP is now knowledge-based, including industries such as telecommunications, computers, software, pharmaceuticals, education, and television. High-tech industries have nearly doubled their share of manufacturing output in the past two decades. Therefore, it becomes clear that global financial markets and specialist companies will become powerful sources of growth, employment, wealth, and power. Thus, the key to competitive advantage will rely increasingly on the effective recruitment, training, and management of human resources. And as empirically explained through the example of high Indian presence in industries in America, we can hypothetically argue whether: *skilled migrants with high levels of education and income are more likely to influence (economic and political) investments for their country of origin.*

The focus on intellectual resources have not only redefined the boundaries of organizations, but also placed a greater power on people, personal computers, and networks. Competing in a knowledge-based economy, has for long advocated the recruiting and retaining of 'the best and the brightest' for successes. Moreover, since immigrants form a substantial percentage of the work force, the application of this human capital can go beyond organizational effectiveness, and the domestic economy to further benefit their countries of origin.

The problem in this argument is the relative lack of empirical evidence to prove this hypothesis. The visibility of two trends: (1) the presence of a large number of Indian in high managerial positions in the United States; and (2) the increasing investments of some of these companies in India, though parallel in process are not necessarily correlated. However, many managerial theories have put forward some arguments that

can be applied here. Through a definition of the elements of human capital, a correlation can be found between these two trends.

According to one definition of human capital, *capabilities, knowledge, skills, and experience*, embodied in the individual forms its human capital resource. The following table identifies eight key categories or elements, of human capital.

The closest we can come to linking human capital and their influence to benefit country of origin is by understanding each of these definitions. Experience and knowledge, in part having developed in the home country directly ties the skilled migrant to the country of origin. Values, attitudes, and beliefs have deep roots, but are based largely on each individual's knowledge (what he or she has been taught), and since the formative years were spent in country of origin we can also find a correlation with this element that links a skilled migrant to the home country (Table 35). Individuals relate to organizations in multiple ways – as employees, team members, and shareholders. The assigned responsibilities is most important to this discussion on *leverage* that the highly skilled Indian migrant will have on influencing decisions in favor of the sending country. In Table 31, of the 47 companies mentioned there, Indians formed an important percentage of CEOs, Presidents, Vice Presidents, Chief Operating Officers, and Chief Scientific Officers. About one-third of the engineers in Silicon Valley are of Indian descent, while 7% of valley high-tech firms are led by Indian CEOs. Some obvious successes such as those of Vinod Khosla, Sabeer Bhatia, Massachusetts' Gururaj Deshpande, (worth between \$4 billion and \$6 billion), Rono Dutta, Rakesh Gangwal, and Rajat Gupta. Although the opportunities for leverage for the sending country and the approaches that will be most effective will depend, to a considerable degree, on the skills

Table 35. Elements of Human Capital

More Task-Specific	Less Task-Specific
Communication skills – the ability to listen, communicate, and share information and ideas	Experience – know-how (and perspective) from having done the task before
Information Processing (cognitive) skills – the ability to reason, analyze and make decisions	Knowledge – knowledge of the self, the job, the organization, and the environment
Information Gathering (perceptual) skills – sensory, perceptual, and interpretative capabilities	Social Skills – the ability to interface, coordinate, and collaborate productively with others
Motor Skills - the ability to grasp, place, move, and manipulate objects in coordinated movements	Values, beliefs and attitudes – personal values that shape perceptions, performance and attitudes

Source: Dess and Pickens, *Beyond Productivity* (New York: AMACON, 1999), 13.

and capabilities that are addressed by the highly skilled migrant, considerable synergies are often realized through political collaborations. A large role in the thawing of relations is played by the Indian Diaspora in the United States, through politically leveraging human capital. The definition for leverage translates as 'effectiveness' and 'power'.

Hegemons and Pretenders

Many theories are put forward in international relations that would help explain the nature of relationships between two or more states. The international arena before and after World War II have seen many Hegemons,⁵⁶ counting from the end of the Middle Ages: from Portugal, to Holland, then Britain and finally the United States. Post World War II has been largely dominated by the power politics between the Soviet Union and the United States making it essentially a bipolar world till 1971. The eventual fall of the Soviet empire led to the emergence of a unipolar world with the United States as the dominating world power.

Robert Gilpin, Stephen Krasner, and other scholars from the realist tradition in 'International Relations' have identified the distribution of power among states as a central factor in explaining the openness and stability of the international economy. "Hegemonic Stability Theory," first espoused by Charles Kindleberger in the 1970s, focuses on the role of leading states for example, Great Britain in the nineteenth and the United States in the twentieth centuries - and on how changes in the distribution of capabilities affect the world economy. This theory argues that the overwhelming

⁵⁶ Hegemony is the dominance of one group over other groups, with or without the threat of force, to the extent that, for instance, the dominant party can dictate the terms of trade to its advantage; or more broadly, that cultural perspectives become skewed to favor the dominant group.

dominance of one country is necessary for the existence of an open and stable world economy and that such a Hegemon would serve to coordinate and discipline other countries so that each could feel secure enough to open its markets and avoid beg-thy-neighbor policies. Conversely, the theory asserts that the decline of a Hegemon would tend to be associated with economic closure, instability, and the creation of competing regional blocs.⁵⁷

Theorists further introduce the concept of a ‘pretender’ to the Hegemon that would rival its power and authority. After the demise of the Soviet Union there has existed a strict belief that the world has become unipolar. However, this paper introduces here two states, namely China and India, as players who could possibly play the role of “pretender” rivaling the undisputed power of the Hegemon.⁵⁸ Let us take a look at the table that gives us an idea of the different Hegemons and their pretenders over time.⁵⁹

Hegemon	Pretender
Portugal 1494 to 1580	Spain
Holland 1580 to 1688	England
Britain 1688 to 1792	France
Britain 1815 to 1914	Germany
United States 1945 to 1971	USSR
United States	China and India

To be a Hegemon, a state is said to have three *attributes*: first, the capability to enforce the rules of the system; second, the will to do so; and third, a commitment to a system that is perceived as mutually beneficial to the major states. Its *capability* rests

⁵⁷ See the classic article by Helen Milner, “International Political Economy: Beyond Hegemonic Stability,” *Foreign Policy* 110 (Spring 1998).

⁵⁸ The European Union can also be considered as a pretender however this research is specifically looking at states and not organizations.

⁵⁹ Many theorists have put forward concept of “pretender” till the high time of the Soviet Union. After the decline of the Soviets, no state has been able to challenge America as the global power.

upon three attributes: A large, growing economy; dominance in a leading technological or economic sector; and political power backed up by projective military power. This typically describes the United States in terms of both attributes and capability.

However, over time, there has been an uneven growth of power within the system as new technologies and methods have developed. An unstable system has resulted because economic, technological, and other changes have eroded the international hierarchy and undermined the position of the dominant state. "Pretenders" to hegemonic control have emerged since the benefits of the system have been viewed as unacceptably unfair. Countries such as China and India, both dominant trading partners of the United States have challenged the HST to some extent. China with its favorable balance of trade with the United States and India with its burgeoning IT industry and site of many outsourced companies and jobs from the United States.⁶⁰ Now, more than ever, the field of international political economy has become an important field of study since "the end of the Cold War has helped shift attention to the field's main focus: how markets and states affect one another."⁶¹

Focusing on India specifically, it is important to assess the *capabilities* possessed by a Hegemon once again. India does have a large, growing economy; it is dominant in a leading technological or economic sector (software and IT); and has political power backed up by projective military power (in regional terms at least). Given this evidence we don't know as yet how one must redefine the Hegemonic Stability Theory (many

⁶⁰ India's burgeoning middle class outnumbers the entire US population. See Om Malik, "The New Land of Opportunity," *Business Week*, 15 July 2004.

⁶¹ Helen Milner, 3.

scholars have, in the past attempted to do that)⁶², but surely the roles played by other states in a unipolar world needs reconsideration. Hence an attempt to analyze specific areas where India's strength lies and how it can redefine its power relations vis-à-vis the United States.

Changes in AI between India and United States

Theoretically, the relationship between India and the United States can be best studied using the 'Hegemonic Stability Theory (HST)', that address concepts of *hard power, soft power and interdependence*. In interdependence, of particular interest are studies done on asymmetrical interdependence (AI) and concepts of dependence and the changing nature of power. The current literature on interdependence and power focuses primarily on state behavior and levels of interdependence. What this chapter is looking at specifically is the concept of dependence and power symmetry in an asymmetrical interdependent relationship. As can be seen today, bilateral trading relationships have become very important, changing the dynamics of the 'asymmetries' in an interdependent relationship between two countries. More often than not, AI has been in favor of the developed country as the more dominating partner in an interdependent relation. An attempt will be made to identify the AI between India and the United States and see where and how can this AI be reversed to some extent, making power essentially multidimensional.

⁶² See James Chace, "A Grand New Strategy," *Foreign Policy* number 70 (Spring 1988): 3-25; John G. Ikenberry, "Institutions, Strategic Restraint, and the Persistence of American Postwar Order," *International Security* 20 number 3 (Winter 1998): 43-78; W. Max Corden, "American Decline and the End of Hegemony," *SAIS Review* 10 number 2 (Summer-Fall 1990): 13-26; and Michael H. Hunt, "American Decline and the Great Debate: A Historical Perspective," *SAIS Review* 10 number 2 (Summer-Fall 1990): 27-40.

Thus, rather than viewing the relationship in simplistic terms where one is powerful and the other vulnerable, it becomes important to understand this relationship from a viewpoint where asymmetries or dependence *could be a variable and not a constant*.

Here, it becomes imperative to look at international migration and role of the Diaspora as one factor that may be responsible for changing the current perceptions about India. Therefore, this research is a departure from previous works in the sense that it is not an evaluation of Indo-US foreign policy towards each other but attempts to look at the areas where each country has its particular strength and how the more dependent country, India, can use its Diaspora as soft power.

While it may be true that the Diaspora uses its wealth and influence to gain benefits for the community and its home country, it remains *highly unlikely* that this asymmetry will change in the near future. Soft power in the global information age does benefit India hugely, in its bilateral relationship with other countries. But as argued by Nye, it would be a mistake to portray the changing face of power as the problem of American decline rather than a diffusion of power. At best, a closer relationship with United States will attempt to influence Washington to better appreciate Indian concerns. Although the two countries have had recent fallouts on many issues (such as terrorism, the war in Iraq and India's refusal to send troops, international trade issues, declaration of Pakistan as Non-NATO ally of United States), both countries have refused to let their differences derail the progress of their bilateral relations. To this end, the two million strong Indo-American Community represents a bridge between the two countries.

CONCLUSION

In 2000, 'Time' magazine featured the extraordinary success of Indian-Americans vis-à-vis Asian, and other immigrants. Viewed as a case of "triumph of quality over quantity,"⁶³ Indians have been labeled by the US media as the 'smartest immigrant group' of an era with no fewer than 200,000 Indian millionaires in the United States. This group is wealthy, higher educated, and having a family median income higher than other groups in the United States. Their success in Silicon Valley, and other fields have accorded them high visibility in their country of residence.

In addition to its economic prowess, political implications of the Indian ascendancy in the United States have become extremely evident in the last couple of years. However, it may still not be easy to establish convincingly the extent of Indian knowledge workers' influence in the United States Congress. By lobbying effectively, both directly and indirectly, the Indian Diaspora has won many friends and supporters in the U.S. Senate and Congress, who pursue issues of great importance to India and the Indians. The 'Friends of India' caucus goes a long way to achieving that end. The use of people as 'soft power' is an established theory, but extending it to Diasporic transnational networks opens up new avenues in studies on soft power and AI. While there may be some truth to the leverage Diasporic communities can play in the US Congress, it is probably too soon to formulate this at a conceptual level. The real question however, is that to what extent will the Indian Diaspora be able to build a vibrant Diaspora network with their country origin? What efforts will be needed on the part of both the Indian government and members of the Diaspora for taking this 'from ideas to action'?

⁶³ Anthony Spaeth, "The Golden Diaspora: Indian immigrants to the U.S. are one of the newest elements of the American melting pot--and the most spectacular success story," *Time*, 5 September 2000.

CHAPTER VII
CULTIVATION OF THE INDIAN DIASPORA: FROM STATISTICAL ANALYSIS
TO POLICY FORMULATION

INTRODUCTION

Policies relating to migration of highly skilled workers are studied primarily from the viewpoint of receiving countries, through immigration policies and regulations. Attention to government policies of sending countries is a recent study in international migration of the highly skilled. Several developing Asian countries, in particular, are now paying increasing attention to the economic and social implications of labor export and the potential of their Diasporic communities to improve prospects for economic development through investments and other such initiatives.

The role of the state in sending countries deserves attention with respect to brain gain strategies. This is important for both policy implications in general, and development in particular. Both 'return' and 'non-return' yields definite benefits for the sending countries with the roles of the respective governments being deemed as crucial in encouraging and fostering Diaspora links. The relative success of Chinese Taipei, Korea and Ireland, among others, in fostering return migration has been attributed to the opening of their economies and adopting policies that fosters domestic investments in innovation and in R&D. Developing countries with some infrastructure in R&D, such as India, are beginning to attract the return of their highly skilled migrants, as well as their money and business contacts. China represents one of the best examples of how

governments can carefully cultivate their populations abroad and convert brain drain trends into a gain for the sending country.

Governments in sending countries can and have done quite a bit in addressing problems that might encourage its Diaspora abroad to return or invest in their home countries. As one initiative, they are developing centers of excellence for scientific research and framing the conditions for innovation and high tech entrepreneurship to make their country attractive to highly skilled workers, both from within the country and from outside. Public recognition of Diaspora members through awards and ceremonies has generated a wave of positive sentiment within the Diaspora and created a platform for forging new relationships, more constructive than before, with their countries of origin. Lastly, policy formulation for better facilitation of investment in banking and financial sectors has been implemented.

Irrespective of these initiatives, common political and bureaucratic hurdles in the home country goes a long way in explaining the continued driving force behind out-migration of the flow of labor to countries with higher income opportunities and better working conditions, and a lack of return. Some common hurdles associated with return include unattractive facilities for work, the recruitment of people remaining selective and corrupt, and lower salaries than what they were earning abroad.

The role of the Indian state as a major labor-exporting nation deserves increased attention as it not only directly intervenes through policies in promoting out-migration of their professionals but also protects and promotes the well being of their migrants abroad. In addition, it pushes for the maximization of economic development through favorable policies with respect to remittances, investment, and return. Based on these studies and

observations, this chapter intends to analyze the third hypothesis in this dissertation: *a more positive role played by the state in the sending country determines the level of return and non-return benefits.*

The chapter is structured as follows. First, it explores and illustrates some of the strategies adopted by major labor exporting states in promoting out-migration of the highly skilled migrants as well as their return as a background study. Second, it traces the initiative and response of the Indian state in cultivating their Diaspora for maximizing economic development. This is studied primarily through: policies in information technology; other fiscal and investment policies; and recognition of the Diaspora through awards and ceremonies. Last, it concludes with a discussion on the various hurdles (economic and political bottlenecks) that Diaspora members face while investing in India.¹

LABOR EXPORT AND OTHER STRATEGIES IN SENDING COUNTRIES

Government responses in sending countries usually take on three approaches (enumerated in Table 36). These include, (a) promoting employment through out-migration of professionals, (b) protecting and promoting the well being of their migrants in distant lands, and (c) cultivating their Diaspora communities for maximizing economic benefit. Of importance to this research is the third point, the notion of government's role in harnessing the potential of their Diaspora to further investment in the country, either return or non-return. However, since 'brain gain' studies start with brain drain and cost to the sending country, I first start with the argument that if the voluntary out-migration

¹ Although this dissertation is primarily concerned with Diaspora members in the United States, investment by NRIs from US as well as other countries will be referred as illustrations.

Table 36. Main types of policies relating to labor emigration in Asian countries

Policy Goal	Government Interventions
Promote employment	<i>Foreign market development</i>
	<ol style="list-style-type: none"> 1. Establish diplomatic relations 2. Strengthen placement services, public and private 3. Undertake promotions and marketing missions 4. Gather market information and undertake research 5. Negotiate bilateral agreements
	<i>Manpower supply management</i>
	<ol style="list-style-type: none"> 1. Create manpower registry 2. Export corporate services
Protect and promote well being of migrants	<i>Standard setting and enforcement</i>
	<ol style="list-style-type: none"> 1. Establish minimum standards for employment contracts 2. Implement exit control measures 3. Make arrangements for social security 4. Restrict exit of selected workers (minors and young women)
	<i>Supervision of private recruitment</i>
	<ol style="list-style-type: none"> 1. License recruitment firms 2. Set performance guarantees and penalties 3. Censure illegal recruitment and clandestine migration
	<i>Welfare services</i>
	<ol style="list-style-type: none"> 1. Provide information and counseling prior to departure 2. Provide labor attaché services on site 3. Establish community centers for workers 4. Provide support services to families left behind 5. Provide returnee training and employment assistance 6. Prepare plans for emergency evacuation or repatriation
Maximize potential for economic development	<i>Migrant remittances</i>
	<ol style="list-style-type: none"> 1. Implement favorable exchange policies 2. Provide remittance policies and services
	<i>Migrant savings and investments</i>
	<ol style="list-style-type: none"> 1. Create special financial instruments 2. Provide information and support services to small investors 3. Create special housing programs for migrants
	<i>Return of talent and skills</i>
	<ol style="list-style-type: none"> 1. Provide special placement services and incentives 2. Negotiate bilateral training agreements

Source: Hugo, Graeme, and Charles Stahl, "Labor Export Strategies in Asia," in *International Migration: Prospects and Policies in a Global Market*, ed. Douglas Massey and E.J. Taylor (Oxford: Oxford University Press, 2004), 180-181.

of highly skilled professional and students renders a cost to the sending country, then their governments actively support and even encourage this movement. Most of the labor-exporting countries in Asia such as Bangladesh, India, Indonesia, Pakistan, Philippines, and Thailand increasingly recognize the benefits of encouraging, facilitating, and endorsing the out-migration of their labor (both skilled and highly-skilled) and actively promote the movement. "Perhaps the most common form of benefit is the generation of remittances to pay foreign debts, finance trade deficits, and improve balance of payments. In this sense, sending workers overseas is seen in the same way as the export of any other commodity – as a means of generating foreign earnings."²

Remittances, minor in scale in the 1970s, represents today one the best-measured and recorded aspect of the migration experience.³ Some of the economic costs associated with migration of the highly skilled and the educated are reduced through remittances. Not only are remittances critical to the foreign exchange position of many labor-exporting countries but also play a vital role in the consumption and investment behavior of migrant households themselves. Moreover, even those remittances destined for consumption have significant multiplier effects that strongly promote development.⁴ Another justification for labor migration is that it provides workers with training and skills that can be employed later to promote development.

² Graeme Hugo and Charles Stahl, 175-176.

³ See Sharon S. Russell and Michael Teitelbaum, *International Migration and International Trade* (Washington D.C.: The World Bank, 1992); and D. Massey, J. Arango, G. Hugo, A. Kouaouci, A. Pellegrino, and J.E. Taylor, "Theories of International Migration: A Review and Appraisal," *Population and Development Review* 19 number 3 (September 1993): 431-466.

⁴ Charles Stahl and A. Habib, "The Impact of Overseas Workers' Remittances on Indigenous Industries: Evidence from Bangladesh," *The Developing Economies* 27 (1989): 269-85; and Charles Stahl and Fred Arnold, "Overseas Workers' Remittances in Asian Development," *International Migration Review* 20 (1986): 899-925., 1986.

While the literature has long recognized the contribution of migrant remittances (e.g. from Mexico, India and the Philippines), it is increasingly recognized that highly skilled immigrants can bring venture capital, as well as managerial and technical expertise to sending countries. Positively termed as ‘brain circulation’ strategies, it represents a unique way of looking at brain gain strategies where skills are not lost but circulated between sending and receiving countries. However, precise data on the amount of immigrant venture capital flows are not available, partly because they originate from informal investors and family sources. In the long term, sending countries encourage the return flow of people and capital as this offsets some negative effects of brain drain. “In Chinese Taipei, for instance, returnees from the United States started about 50% of companies emerging from that economy’s largest science park Hsinchu. In China, the ministry of Science and Technology estimates that returning overseas students started most internet-based ventures.”⁵ In Ireland, returnees in the mid-1990s contributed to the Irish economy positively, by raising the level of GNP.⁶ Singapore has shifted its economic strategy from a focus on high technology, high value added industries to a program of building an external economy through overseas expansion and the promotion of offshore activities. In this regard the Singaporean government have issued recent statements that increasingly identify the overseas community as a “valuable link” to Singapore and to the world economy. Diaspora network approaches in South Africa, the South African Network of Skills Abroad (SANSA), provide human resources to their

⁵ Dominique Guellec and Mario Cervantes, “International Mobility of the Highly Skilled: From Statistical Analysis to Policy Formulation,” in *International Mobility of the Highly Skilled*, OECD (Danvers, MA: Clearance Center, 2002), 87.

⁶ Alan Barrett, “Return Migration of Highly Skilled Irish into Ireland and their Impact on GNP and Earnings Inequality,” in *International Mobility of the Highly Skilled*, OECD (Danvers, MA: Clearance Center, 2002).

countries of origin.⁷ This enables them to participate in their country's development from abroad. Some 35 countries now use such networks with varying degrees of success. Returnees in China add human capital and start business at home bringing not only advanced knowledge of business, trade, science and technology but also precious information resources that can help the development of China's economy. What they can offer far exceeds the investment implied by their period of work or study abroad.⁸ Recently, China has also launched a project to develop one hundred universities into world-class institutions that not only provide higher education training, but also academic employment and research opportunities.⁹

At the policy level, the challenge for sending countries is the facilitation and circulation of its highly skilled workers across frontiers with benefits for them. The South African example illustrates the need for strong policy coherence in the spheres of migration and development aid, so that the benefits of the international mobility of professionals are shared in a fair and sustainable fashion. Developing centers of excellence for scientific research and framing the conditions for technological innovation and entrepreneurship are important in making a country attractive to highly skilled workers, both from within the country and abroad. The reverse brain drain in South

⁷ J.B. Meyer, 91-110.

⁸ Zhang Guochu and Li Wenjun, "International Mobility of China's Resources in Science and Technology and its Impact," in *International Mobility of the Highly Skilled*, OECD (Danvers, MA: Clearance Center, 2002).

⁹ Billion-dollar initiatives such as the 2/11 campaign and the Elite University Program have boosted the number and quality of local universities. Through the 2/11 campaign the government spread about \$2.2 billion among 100 universities, while the Elite University Program spread about \$1.2 billion among 10 top universities. Overall, 2.9 percent of the country's gross domestic product goes to education. The government wants every middle school and most primary schools to be connected with the Internet by 2005. Source: Michael Kanellos, *Tapping brainpower: New generation of engineers*. Available [Online]: <<http://news.com.com/2009-1001-940319.html>> [15th May 2005].

Korea serves as a good example of a country where the government directly intervenes in initiating organized repatriation in selected social sectors and setting up procedures to achieve these objectives.¹⁰ The Ministry of Science and Technology in South Korea plays a crucial role by organizing professional associations of Korean scientists and engineers in the United States to develop a 'reservoir brain pool' for future 'reverse brain drain'.

While sending countries may view their domestic pool of skills depleted and public investment in human capital lost, those that create opportunities for research, innovation, and entrepreneurship in leading industries are more likely to benefit from return flows of migrants, capital, and access to international innovation networks. "Indeed to the extent that their return with enhanced skills, experience, overseas economic connections, and economic assets, they may have a greater positive effect on development than if they had remained at home."¹¹

Immigrant networks of overseas businessmen and entrepreneurs and "brain circulation" between India and the United States have been one important driver of knowledge development in India. The Indian government has contributed to the emergence of such private networks through legislative and tax rules that foster remittances and investment by Indians overseas. It is against this background, that the role of the Indian government is evaluated in the sections below, with a view to providing a coherent framework for understanding the policies of the government in the successful cultivation of its Diaspora members.

¹⁰ B.L. Yoon, "Reverse Brain Drain in South Korea: State-Led Model," *Studies in Comparative International Development* 27 (1990): 4-26.

¹¹ Graeme Hugo and Charles Stahl, 194.

ROLE OF THE INDIAN STATE: INITIATIVES AND RESPONSE

Since the beginning of economic reforms in 1991, there has been structural change in India allowing it to grow at a healthy rate. Non Resident Indians (NRIs) play a major part in foreign investment but its contribution to the Indian economy was formally recognized with the celebration of the “First Pravasi Bharatiya Divas” (Overseas Indians Day) from 9 -11 January 2003, in New Delhi. This was regarded as a historic occasion since it marked the beginning of a new chapter between India and the Indians abroad to build the economic future of India. Although there exists evidence of a significant flow of people back to India from North America, when compared with other countries like China, the 20 million Indian Diaspora worldwide contributes less than 10 percent as compared to the 55 million Chinese Diaspora that contributes almost 60 per cent of China’s total foreign direct investment. This is mainly because Indian governments policy initiatives and response towards its Diaspora has been varied irrespective of the age and time.¹² “In contrast, the Chinese government, through a decree passed on 18th August 1990, has offered special rules and regulations for overseas Chinese to encourage investment in China.”¹³ The bigger question is whether India can take a cue from the miracle of the Chinese ‘bamboo network’ to further the investment in their country. Thus, irrespective of the fact that global Indians are being noticed and recognized in every corner of the world for their success, the narrowing of the gap between the ‘Global Indian Society’ and India is what would matter in the long run.

¹² Chandrashekar Bhat, *India and the Indian Diaspora: A Policy Issues*. Available [Online]:<<http://www.uohyd.ernet.in/ssscinddiaspora/centre1.html>>[14 December 2005]. This paper examines the nature of policy pursued by India towards her Diaspora and offers some suggestions towards a new approach in the contemporary context.

¹³ Sunil Prasad, *Can the Indian Diaspora help India overtake China?* (2005). Available [Online]:<http://www.gopio.net/India_China_0703.doc>[11 December 2005].

The Indian state, conforming to the ideals of a mixed economy in its early years, had a combination of restrictions along with privatization in its various sectors during the 1960s, and the 1970s the 1980s. Early 1980s represented a conscious attempt by the government in promoting private entrepreneurship in the high technology industries. This was reinforced even more strongly with the liberalization of the economy in 1991. Thereafter, the policies relating to the information technology, in particular software has been given prime importance. In this regard, the state has increasingly recognized the role its Diaspora members can play in promoting economic development and has attempted to formulate policies to encourage this trend. The Indian government's response can be summed up as: (a) history of investment and fiscal policies; (b) policies in information technology (IT); and (c) recognition of the Diaspora through awards and ceremonies.

Engaging the Diaspora: Early Years

During the early years of India's independence Jawaharlal Nehru was widely criticized for his particular brand of Fabian socialism in the economic sphere, and foreign policy blunders (Himalayan) in the political arena. However, in spite of his insistence on self-reliance, centralized planning, and protectionism, he can be, indirectly, credited with creating the second largest pool of trained scientists and engineers without parallel outside the developed world specializing in 'research and development'.¹⁴ It is this pool of highly skilled groups of professionals, scientists, doctors and engineers that had significantly begun to emigrate for greener pastures to the developed world. With partial

¹⁴ Shashi Tharoor, *Nehru. The Invention of India* (New Delhi: Penguin Books, 2003).

liberalization and new industrial policies beginning in the 1970s, the government now sought their involvement in investing in India in both capital and technology.

The late 1970's, owing to political defeat of the Congress Party in 1977, ushered in a variety of leftist and rightist forces, who, as ruling party, embarked on a reversal of policies in place. One of the biggest setback decisions of the new government was its decision to limit foreign investment by companies such as IBM and Coca Cola. IBM was one of the first multinational companies to be admitted into the country after independence and 'Big Blue's exit created a vacuum that was filled by indigenous hardware production and software writing companies in India such as Hindustan Computers Ltd (HCL), Patni Computer Systems, Wipro, and Infosys.¹⁵

The assassination of Indira Gandhi in 1984 and the arrival of her son Rajiv on the Indian political arena ushered in a new era for the Indian economy. Rajiv with his youthful looks and background as a commercial airline pilot proved to be an attractive proposition for the American companies. On its part, the Indian government with new visionary ideas was once again eager to bring back all the expelled MNCs. Thus, after a five year exile many foreign companies such as Texas Instruments (TI)¹⁶, Hewlett-Packard (H-P), digital Equipment Corporation (DEC), General Electric and Nortel Networks came back to India and tied up with Indian firms such as Wipro, Infosys and Satyam.

¹⁵ These companies had joined early birds like Tata Consultancy Services (TCS), PSI – Kalinga, training institutes such as NIIT and Aptech, all of which had been less fancied in those times than now and were equivalent of startups.

¹⁶ TI is a Dallas-based chip giant that has pitch-forked Bangalore on to the international infotech map by locating a Computer Aided Design (CAD) center there and turning it from a 'Garden City' to a 'Silicon Plateau'

Coinciding with the visibility of Indian abroad, the 1980s was ripe with ideas to cultivate the Diaspora for investments in India. Early on, most of these took the form of NRIs joining up with Indian companies in joint ventures. Although there is no specific date one can put on the government's interest in the Diaspora, it cannot have escaped their notice that their Diasporic community was not only vast in numbers but also abundantly rich and influential in their countries of residence. Common to most enterprises in the world was the presence of Indian executives at senior levels. To what extent were they influential in directing investment is not known, but some examples illustrate their willingness to promote collaborations with their Indian counterparts. Prominent among these are NRI's such as Thampy Thomas who began joint ventures with the Tatas¹⁷ to build mainframe computers in the Silicon Valley. Sam Pitroda, a prominent Diaspora member, returned to India from the US to boot up C-Dot (a company that tackles India's telephone infrastructure).¹⁸

Following the balance of payments crisis in late 1980s and liberalization of the economy in early 1990s it was clear that the government was looking at new and improved ways of maintaining and facilitating the initial growth achieved. Political debates no longer revolved around boons of a liberalized economy vis-à-vis the mixed

¹⁷ The Tata Group operates business in seven key industry sectors such as materials, engineering, energy, consumer products, chemicals, communications and information systems, and services. The Tata Group figures for the year 2002 – 03 has been (in Rs. Million) 5,42,270 for total turnover and 1,30,764 for exports.

¹⁸ Today CDOT is embarking upon research and development efforts to provide ISDN, ATM, satellite communication, and Intelligent Network capabilities. In order to solve some of its more research-oriented problems, CDOT has already formed alliances with academia. Whereas so far these have been related to streamlining product development, the aim is to attract academic researchers to work in more technical areas related to telecom.

one, but within liberalization, on “how far, how fast.”¹⁹ However, as strongly pointed out by various economic critics, the quality of fiscal adjustment was lacking in homogeneity as too much of it was coming out from a cut in investment and too little from a rise in public savings. Much of the debate remained focused on macro-stabilization and managing balance of payments. Areas such as agricultural and financial reform were seen as sectors not dealt with adequately by the government in the initial years.

The underlying features of the ongoing economic reforms included: decontrolling and deregulation of the licensing regime; procedural simplification and streamlining of the system; distribution-investment in public sector; privatization of economic activities; drastically changing FERA and MRTP rules; increasing foreign direct investment, and foreign technology with minimum controls on fiscal, trade and industrial policies; and to provide impetus to attract inflow of foreign investment into India. Many politicians and bureaucrats increasingly started engaging the Diaspora to try and get increasing returns for the country since non-resident Indians (NRIs) were well known for having sizeable resources in terms of finance, scientific talent, and technical know-how.

Finance Ministers touched on issues of foreign direct investment²⁰ in their budget speeches throughout the 1990’s. Probably the first time that a Finance Minister had a special category marked ‘NRI’ in the budget speech was the 1998-99 speech of Shri.

¹⁹ R. Cassen and Vijay Joshi, *India: the Future of Economic Reform* (Delhi: Oxford University Press, 1995), 4. In June 1993, various economists met in Oxford to discuss the future of India’s reforms. Most of the debates really focused on macro-stabilization and managing balance of payments. Areas such as agricultural and financial reform were seen as sectors not dealt with adequately by the government in the initial years.

²⁰ See Budget speech of the Finance Minister P. Chidambaram for 1997- 98: Available [Online]:<<http://indiabudget.nic.in/ub1997-98/bs/BSMAIN.HTM>>[25 may 2005].

Yashwant Sinha.²¹ Among the general investment related issues was the significant announcement of the issuance of 'Persons of Indian Origin (PIO) Card' for those living abroad and having foreign passports. The PIO Card would extend persons of Indian Origin settled abroad a visa-free regime, and also confer some special economic, educational, financial, and cultural benefits. With the globalization of the economy, the Government of India (GOI) decided to get increasing involvement of NRIs in the industrial development of the country. The ambitious growth plans on which India has embarked had been based on mobilization of considerable resources both internal and external.

In the preceding two decades several facilities and incentives had been announced for Non Resident Indians/Persons of Indian Origin and Overseas Corporate Bodies to encourage them to invest in India, with the right of repatriation of investment and profits as well as on non-repatriation basis. Other kinds of investment include portfolio investments, bank accounts, and immovable property. Besides this the Government of India had also offered a number of other facilities and incentives to NRI/PIO and OCB²² to enlist their greater participation in the economic development of the country.²³ As a result of these measures and the vast investment opportunities available to Non Resident Indians and foreign companies, the inflow of foreign investment including NRI investment had significantly increased from 1991 to 2002 (Figure 21).

²¹ Ministry of Finance, Government of India, *Union Budget Speech: Non Resident Indians, (1998-99)*. Available [Online]:<<http://indiabudget.nic.in/ub1998-99/bs/bs14.htm>>[10 June 2005].

²² Appendix A gives the definition for NRI, PIO, and OCBs

²³ India Investment Center, *NRI related policies*, (2002). Available [Online]:<http://iic.nic.in/iic3_b.htm>[23 June 2003].

Actual inflow of FDI	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002 (May)
Government's Approval	1.9	4.8	9.9	15.0	38.7	57.6	101.3	82.4	61.9	63.4	96.4	43.3
RBI Automatic Approval	-	0.5	2.4	3.6	5.3	6.2	8.7	6.1	7.6	17.0	32.4	25.3
NRI Schemes	1.6	1.5	5.6	11.1	19.7	20.6	10.4	3.6	3.5	3.5	2.3	0.1
Total	3.5	6.8	17.9	29.7	63.7	84.4	120.4	92.1	73.0	83.9	131.1	68.7

in Rs. billion

Figure 21. Actual Inflow of Foreign Direct Investment Including NRI Investment: 1991 - 2002

Source: India Investment Climate, *Actual Inflow of Foreign Direct Investment Including NRI Investment: 1991 – 2002*. Available[Online]: <http://iic.nic.in/iic2_c04.htm> [17 June 2003].

INDIAN IT INDUSTRY: GOVERNMENT POLICY INITIATIVES IN THE 1990s

The commitment towards IT (especially software) was given prime importance because of two important trends. The first was the growing importance of IT industry and 'Indian Siliconnaires'²⁴ since this group of Indian professionals alone comprised millionaires and billionaires that found themselves in the right place, at the right time to exploit all available opportunities in the 'infotech revolution'. Efforts to engage them in mutually reinforcing roles with India were viewed as rendering important benefits for the home country. Second, since India's 'comparative advantage'²⁵ lay in its abundance of qualified software engineers, with competency in English language, coupled with the government's timely national action plan for rapidly improving communications infrastructure, the education system in India increasingly started focusing on computer-related knowledge for its workforce, through training in schools and colleges.

Consequently, computer education was introduced at the primary level and made compulsory in certain standards. Computer science professionals can be divided into two categories – engineers and programmers. Engineers have to go through a four-year phase in the any state of India (approximately 96 engineering colleges) before they are certified. Entry to these colleges is very rigorous based on competitive exams. It is estimated that about 15,000 computer science and electronics majors graduate from these engineering colleges every year. A high number of software programmers are also certified in the

²⁴ Chidanand Rajghatta, 36. The term has been coined to describe millionaires in the Silicon Valley, California. By the late 1990s the area was said to be producing sixty-four millionaires every day.

²⁵ Comparative advantage has been a powerful principle of economics since David Ricardo first proposed it in 1817. In simplistic terms, the theory states that countries can achieve a higher level of wealth if each focuses on maximizing its own natural resources and capacities in Production.

thousands of software training institutes (such as NIIT).²⁶ Most institutes require only a high school diploma for students to enroll. It is estimated that over 200,000 people have taken classes in these institutes to get certified in software languages and packages. Similarly, the government has consistently reinforced its commitment to the IT industry by its simple and encouraging policies and a vibrant economy. In *'The Horse that Flew: How India's Silicon Gurus Spread their Wings'* Rajghatta²⁷ offers very interesting insights that he had acquired by interviewing scores of "techies", CEOs, and others members of the Indian diaspora. The book is full of personalities in the IT industry that have collaborated with the Indian government at various times to boost up the Indian economy. Although there is considerable variation in the number and quality of these programs, the Indian government has various policies and programs to assist the social and economic integration of returning migrants. Among the many initiatives taken by the government, in the field of IT, by the creation of 'Software Technology Parks (STPs)',²⁸ the creation of the National Association of Software and Service Companies (NASSCOM), and reforms in the department of electronics of the central government.

²⁶ National Institute of Information Technology

²⁷ Chidanand Rajghatta, born in Bangalore, earned his M.S. from Bangalore University in 1982. He has worked with in Indian Newspapers and Journals such as *The Indian Express*, *The Telegraph*, *India Today* and *the Times of India*. He was *The Indian Express'* correspondent in the United States from 1995 to 2000 and is currently Washington correspondent for *The Times of India*. *The Horse that Flew* is his first book.

²⁸ Autonomous Society Under Ministry of Communications & Information Technology, government of India. STP scheme is a 100% Export Oriented Scheme for the development and export of computer software using data communication links or in the form of physical media including export of professional services.

Software Technology Parks (STPs)

STPs play a major role in influencing high-tech companies, many of them headed and staffed by highly skilled workers from India, to set up plants and subsidiaries southern states of Karnataka²⁹ and Andhra Pradesh with Bangalore and Hyderabad respectively, emerging as the twin technology cities.³⁰ The creation of these STPs increasingly encourage brain circulation with migration of people was no longer being required for acquiring better skills. The Karnataka government, identifying the potential of software as an engine of industrial growth employment and valuable foreign exchange earner has come up with a number of incentives to encourage exports as well as investment.

STPs have been set up in various cities including Bangalore and provide physical infrastructure, a centralized computing facility along with multiple dedicated satellite links to companies operating within the premises of the STP. A good number of returning overseas professionals find the attractiveness of Bangalore as important for reintegration into the home economy. Bangalore, described as India's Investment Destination of the 21st Century and its fifth largest city, is home to over 6 million people, and serves as a base for over 1,00,000 industries. Out of the 10,000 industries that Bangalore boasts of, IT industry is the one that has makes it the fastest growing city in Asia. Out of an annual average growth rate of 58% in IT, Bangalore alone contributes about 40%. In recent years, Karnataka has emerged as the computer capital and the centre

²⁹ Karnataka has always been a proactive state, which has today made it into the most sought after IT destination in the country. In Karnataka, Bangalore takes the lead, as the most preferred IT destination for its year round salubrious climate, excellent social, education & health facilities. 10% of the Indian Graduates are produced in Karnataka, which has historically been a place for technology and R&D based institutions in India. Karnataka also boasts of one of the best available IT infrastructure in the country.

³⁰ STPs have been created in many states of India and are not limited to these two states as might be the general conception

for high-tech industries, especially in the area of the computer hardware, software, electronics, instrumentation and telecommunication. The state government on its part has inducted a full-fledged secretariat for Information Technology in May 2003. The secretarial mission is to implement the state's IT policy that had been formulated in early 1997. This happens to be the first IT policy by any state in the country. Moreover, the state government has been committed to improving the infrastructure and constantly working to provide better facilities for companies who already have set up their base in Bangalore and for those who are likely to invest there.

National Association of Software and Service Companies (NASSCOM)

NASSCOM's basic objective had been to change government policy in early 1990's so that India's nascent and emerging software industries collaborate with arriving US based multinationals. One of their best uses has been to provide an ideal forum for overseas and domestic companies to explore the vast potential available for Joint Ventures, Strategic Alliances, Marketing Alliances, Joint Product Development, etc., by organizing Business Meets with delegations of various countries.³¹ Nasscom has been acting as the advisory, consultative and co-ordinating body for the IT software and services industry. Nasscom has representatives in various committees of the Government of India including the Ministry of Information Technology, Ministry of Commerce and Industry, Ministry of Finance, Ministry of External Affairs, Department of Telecommunications and Ministry of Human Resources Development. Lately, Nasscom has also started lobbying with various foreign governments, whenever there is a

³¹ NASSCOM: National Association of Software and Service Companies, *Aims and Objectives*, (2006). Available [Online]: <<http://www.nasscom.org>> [23 July 2004].

requirement related to the growth and development of the Indian IT software and services industry. For this purpose, Nasscom has signed Memorandum of Understanding (MoUs) with various international industry associations. Of prime importance here is 'The Indus Entrepreneurs' or more popularly the 'TIE'³² that recruits successful veteran entrepreneurs, corporate executives and senior professionals who have reached a stage in their professional life when they are ready, willing and able to contribute to the industry at large both in their countries of residence and their countries of origin. International affiliations with organizations such as the 'Asian Oceanian Computing Industry Organisation (ASOCIO)'³³ and the 'World Information Technology and Services Alliances (WITSA)'³⁴ have also been vital to spread their global networking.

Department of Electronics (DoE)

The Department for telecommunications and electronics of the government of India has also undertaken various measures to boost its IT industry sector that has recorded impressive growth since the mid-eighties. As one of its most important aims the government has resolved to make India a global IT superpower and a front-runner in the age of 'Information Revolution'. One of the first tasks has been to make revisions and additions to the existing policies and removing infrastructural bottlenecks.

³² The Indus Entrepreneurs (TiE), *A Global Not-For Profit Network of Professionals Dedicated to the Advancement of Entrepreneurship*, (2004). Available [Online]: <<http://www.tie.org/newsletter/02/articles2.htm>> [24 January 2006].

³³ ASOCIO or a group of computing industry associations from the Asian Oceania Region and comprises of representative from 16 countries

³⁴ This forum comprises of member associations from 32 leading countries of the world.

National Task Force on Information Technology and Software Development

The government further came up with a *National Task Force on Information Technology and Software Development* in May 1998. The Task Force had a mandate to formulate the draft of a long term National IT Policy and to recommend immediate steps for the removal of infrastructural bottlenecks to provide a boost to the IT industry. The Task Force formulated three key reports for the government during July 1998 – April 1999.³⁵

While the first report focused on recognizing the impressive growth achieved in the IT industry and making policies for removing bottlenecks, the second focuses on new policy paradigm for the IT hardware industry. The Third looks at recommendations for long term National IT Policies. The major recommendations included opening of internet Gateway access; encouragement for private sector Software Technology Parks (STPs), zero customs and excise duty on IT software, income tax exemptions for software and service exports, encouragement to set up venture capital funds, 1-3 per cent of the Budget of every Ministry/Department for IT applications, networking of all Universities and research institutions, allowing US dollar linked stock options to employees of Indian software companies, new schemes for students, including attractive package for buying computers and many other measures. The government has also accepted all the recommendations and set up a new Ministry of Information Technology in October 1999. This agency has been responsible for integrating all the different components associated

³⁵ The three reports are Information Technology Action Plan – Part I (4 July 1998), Information Technology Action Plan – Part II (October 26, 1998), and Information Technology Action Plan - Part III (16 April 1999). While the first two reports are on software and hardware industries respectively, the third one is on long-term national IT policy.

with IT such as the Central Government, the State Government, academia, the private sector and very importantly, successful Indian IT professionals or the Diaspora abroad.

PRAVASI BHARTIYA DIVAS (NRI DAY) INITIATIVE

The government of the Bhartiya Janata Party (BJP) had been somewhat more proactive in cultivating the Diasporic community. It is during their reign that we find specific policies formulated specially keeping the Diaspora in mind. Previously, the government had policies in place generally catering to foreign investments and FDI inflows into the country. Later they have been included as a separate category in Union Budget speeches.

This government also put in place a High Level Committee on the Indian Diaspora³⁶ chaired by Dr. L.M. Singhvi that has a detailed list of all recommendations for the government on behalf of the Diaspora community. This has a list of all major issues pertaining to the Indian Diaspora such as culture, education, media, economic development (Investment, International Trade, Industrial Development And Tourism), health, Science and Technology, Philanthropy, Consular and other Issues, Dual Citizenship and many other issues.

Interim Recommendations include

- a. *The PIO Card Scheme*
- b. *The Pravasi Bharatiya Divas*
- c. *Pravasi Bharatiya Samman Awards.*

³⁶ FICCI, *Report of the high Level Committee on the Indian Diaspora Ministry of External Affairs*. Available [Online]: <http://indiaday.org/government_policy/singhvi-detail.asp#5> [5 August 2003].

Of these the Pravasi Bhartiya Divas (Indian Diaspora Day) has been a first in forging a constructive relationship between the government and the Diaspora. This gathering of over 3000 participants of the members of the Indian Diaspora from 61 countries has helped the government to create linkages with its Diaspora. The first Pravasi Bhartiya Divas (PBD) was held on January 9th 2003 and has become an annual event since. Among various themes discussed in the 2003 PBD was the significance of the “Global Business Matrix” as espoused by the Finance Minister, Shri. Jaswant Singh where he announced the relaxation of important policy parameters governing the flow of funds and investments. In this regard important comparisons were made with China and other countries in Southeast Asia where the network of Diasporic communities have contributed greatly to their countries. In addition the announcement of *dual citizenship*³⁷ was greatly appreciated by the Diaspora and was seen as a landmark decision.

Essentially it provides that:

For those who have taken foreign passports, the grant of dual citizenship will remove the obstacles in travel to and from India with no multiple visa requirements

Persons of Indian origin settled in economically more advanced countries of the world have skills and expertise in vital sectors. There is no doubt, that investments are induced principally by the logic of business considerations and the investment climate. The facility of Dual Citizenship would foster better co-operation in these sectors by way of investments and transfer of skills and resources.

The principal rationale of the demand of the Diaspora for dual citizenship, however, is sentimental and psychological. Desire of PIOs to forge emotional and cultural bonds with their country of origin is quite evident in the amount of

³⁷ Dual citizenship, the main concern of the Diaspora in developed countries, had been a long-standing demand. It took an event like Pravasi Bharatiya Divas to bring it to fruition. The Draft bill was introduced in Rajya Sabha on May 9th 2003 to amend the Citizenship Act, 1955, as a follow up to the announcement made during the First Pravasi Bharatiya Divas, January 9-11, 2003

Philanthropic activities done by them in India. Dual Citizenship shall strengthen this bond and facilitate Diaspora's contribution in India's social Development.

Dual Citizenship would also help to perpetuate and cement links of the younger generation of the Diaspora with India, as they may be keen to keep in touch with their roots.³⁸

The PBD initiative taken by the Government has generated a wave of positive sentiment within the Diaspora and created a platform for forging new relationships, more constructive than before. Through this event the government has enhanced its image both within and outside the country. As a follow-up on the proceedings of the First Pravasi Bhartiya Divas, the Federation of the Indian Chambers of Commerce and Industry (FICCI) has launched a new division to service and leverage the global network of NRIs/PIOs.

A report by the Federation of the Indian Chambers of Commerce and Industry (FICCI) has also identified some clearly visible areas where the government has made significant progress to develop partnerships with and among the Diaspora to substantially strengthen the partnership through a strong leadership, a win-win mindset and sustained implementation. These are:

- *Public visibility of the Diaspora Opportunity:* the report by the High Level Committee on the Indian Diaspora provides data on the strength and breadth of the Diaspora.
- *Ease of travel for overseas Indians:* the cost of the PIO card, a multiple entry visa for 20 years, has been reduced from about US \$1000 to US \$ 310.
- *Public acknowledgement of Diaspora contributions:* through annual 'Pravasi Bhartiya Divas (PBD)' and 'Pravasi Samman' awards to 10 prominent PIOs and NRIs.

³⁸ FICCI, *Dual Citizenship: Eligibility, Procedure, Benefits, and Privileges*. Available [Online]: <http://indiaday.org/government_policy/dual_citizenship.asp> [29 July 2003].

- *Financial instruments to channel funds:* the government continues to issue bonds to finance infrastructure investment, and had raised over US \$ 10 billion from overseas Indians.
- *Communication with and among the Diaspora:* FICCI is creating a database of overseas Indians to attend their annual functions like the PBD.
- *Specialized services for overseas Indians:* initiatives like invest India of the Confederation of Indian Industry (CII), provide information on foreign investment policy, advisory services to investors, and access to a network of 33 offices in India and 10 offices internationally.
- *Continued progress on investment and foreign exchange policies:* NRI rupee deposits are largely convertible, talent tax credits encourage companies to hire expatriates, and simplified laws facilitate property acquisition.
- *Organic developments in the Diaspora:* the Indian Diaspora is already beginning to cluster on its own accord, such as in Chambers of Commerce, and proactively establish avenues for collaboration with India.
- *Early business successes:* there are now several success stories of Diaspora collaboration that offers a guidebook for others to follow.³⁹

ECONOMIC AND POLITICAL BOTTLENECKS

Notwithstanding all these initiatives by the government one has to bear in mind that in spite of recommendations and policy formulation several other factors, both economic and political and other bottlenecks still remain. Studies by various economists and analysts⁴⁰ have revealed that foreign participation in terms of joint-venture corporation or subsidiary organization still remains limited in the Indian software industry. Besides, the industry is still represented by private domestic limited companies. The study confirms that a majority of these firms are engaged in contractual programming and designing activities and very few of these have assets larger than

³⁹ See McKinsey & Company.

⁴⁰ See Chandana Chakraborty and Dilip Dutta, "Indian Software Industry: Growth Patterns, Constraints, and Government Initiatives," in *Indian Economic Reforms*, Raghavendra Jha (New York: Palgrave Macmillan, 2003).

Rupees 300 million. The domestic market explains only 17.5% of the total software revenue and contrasts strikingly with that in the developed countries such as United States, Western Europe and Japan. There is also a significant dependence on one principal market, the United States that accounts for more than 60% of all ventures. In sharp contrast to other Asian countries that have diversified their exports, India's software exports are concentrated towards custom software work and programming services. Thus India falls behind its competitors only in regard to government initiatives and the size of the domestic market.

Another problem faced in India is the change of government itself. Not all parties in power have shown equal enthusiasm towards cultivating the Diaspora. The national elections in 2004 have heralded the coming back to power of the Congress Party. The Prime Minister, Dr. Manmohan Singh, India's 13-year old economic reform architect, leads the country with a greater emphasis on the "human element" with stronger emphasis on developing agriculture and creating job opportunities⁴¹ as opposed to engaging the Diaspora. Likewise, although the new Finance Minister Mr. P. Chidambaram, a Harvard educated lawyer, has made promises to continue the previous government's broad reform agenda, has made extremely clear that the new government's main agenda will be in the fields of agricultural reform and rural development.⁴² In fact he has gone on record for having made fun of the defeated party for trying to portray

⁴¹ Edward Luce, "Singh to be India's Prime Minister," *Financial Times*, 20 May 2004.

⁴² Edward Luce, "Markets See Minister's Selection as a Sign India is Still on the Reform Path," *Financial Times*, 25 May 2004.

India as “India Shining”⁴³ during elections. The new government is most likely to focus on policy reforms at the state level, with more privatization, and labor reform being ruled out for political reasons. At the outset, the Indian government has come up with a “common minimum program (CMC)” that will include both rural development at the state level and accelerate liberal economic reforms at the same time.⁴⁴

Another source of problem comes from the World Bank withdrawing loans approved for the “focus states”⁴⁵ after the defeat of Chandrababu Naidu, chief minister of the Southern state of Andhra Pradesh, who had so far received a loan worth more than \$2 billion for providing electricity to the state. Chandrababu Naidu has been a champion for the state in promoting the IT industry there and for putting its capital Hyderabad on the world map as one of the twin cities of India that leads in IT. Some have gone as far as to say that he should have been the Prime Minister of the country to harness the full potential of IT in India. The World Bank has also withdrawn its loan worth \$250 million from the neighboring state of Tamil Nadu, with capital Chennai, after the defeat of Ms. Jayalalitha’s regional party. There are many critics⁴⁶ of the Bank who are looking at this as the Bank’s failure to recognize on how to pursue reform. In addition they are also pointing to the Bank’s mistake of linking its program so closely with one politician – Mr. Naidu and not to the state or country itself – a grave mistake in a democracy.

⁴³ India Shining was the election theme for BJP during the 2004 national elections owing to the success rate achieved by the government in the field of IT. This became a matter of mockery among the opposition party as the growth achieved by the IT industry to the GDP of India was less than 2 %

⁴⁴ Edward Luce, “India’s Common Minimum Program: Singh Vows Reform with a ‘Human Face’,” *Financial Times*, 28 May 2004.

⁴⁵ All these Focus States are also the venues of very highly developed Software Technology Parks STPs

⁴⁶ Edward Luce, “India’s Polls Teach World Bank a Lesson,” *Financial Times*, 29 May 2004.

Both markets and investors have reacted very strongly⁴⁷ to the victory of the Congress Party, with the likes of leftists and Communists dominating the political scene. Regardless of the fact that the state of West Bengal, political ground for the Communist Party of India (Marxist), has attracted private investors along with promoting vital reforms in agriculture and land ownership, fear is that privatization will probably slow down.⁴⁸

Although these problems and bottlenecks remain, the government has in the past and will continue, in the future, to channelize the resources of its Diaspora for the home country. Providing state-of-the-art infrastructure for investment and formulating policies and incentives to grab the attention of its Diaspora community remain at the forefront of all initiatives.

CONCLUSION

Since the 1960s, skilled migration was viewed as a loss of scarce human capital and public resources, leading to proposals such as a tax on the brain drain. However, in recent years, coinage of terms such as 'brain gain' and 'brain circulation' reflects a shift in this thinking. Skilled outflows are being seen as a potential positive force for the source country of migration. In India, the changing perception about skilled migration has been driven by the role of NRIs in sectors like IT and health. There is growing awareness about the Diaspora's contribution towards investment flows, skill, knowledge, technology transfer, trade and business opportunities, and India's brand equity.

⁴⁷ On 17th May after election results the main stock exchange index plunged by 11 per cent creating major upheavals in the market

⁴⁸ Edward Luce, "Incredible India and its Reformers," *Financial Times*, 20 May 2004.

Recent government initiatives such as the Persons of Indian Origin Card introduced in 1999, the High Level Committee on Indian Diaspora set up in 2000, the annual Pravasi Bharatiya Divas, and the recent move on dual citizenship, reflect this recognition of positive externalities. It is difficult to say how effective such initiatives on skilled migration will be in future and whether the fanfare with which the Pravasi Bharatiya Divas is celebrated will be backed by concrete measures. Initiatives such as networking with scientists and technologists of Indian origin based abroad, which aim to strengthen India's education and research capabilities in frontier areas and establish India as a global R&D platform, remain statements without supporting measures.

On a positive note, leaders in India are actively looking at their Chinese or Jewish counterparts that are actively harnessing their Diaspora for more benefits. The Chinese network is chiefly oriented around wealth creation and economic growth. The Jewish Diaspora is well known for its cultural cohesion and support for the Jewish way of life. In both cases, in-country leaders had encouraged outreach to their global community, overseas talent had been recruited, and teams of potential leaders have been trained.

The Indian Diaspora has the potential to play important roles in India's development and can be a valuable network for its members. With its judicious mix of academics, government, and industry, one can imagine the importance of the Diaspora towards the growth of IT industry in India. China and Israel have shown the way in building win-win partnerships with their overseas communities. The Indian leadership has also embarked on a journey to transform its far-flung Diaspora into a vibrant community for economic growth.

CHAPTER VIII
GENERATIONAL EFFECTS OF INDIA'S BRAIN DRAIN AND GAIN: A
CONCLUSION

HOPE AND DESPAIR

The discussion over 'brain drain', stemming as far back as the 1960s, has undergone various phases in the last four – five decades with important implications for both source and receiving countries. Since the U.S. and the U.K. first opened their doors to skilled workers and students, they have been accused of luring the best and the brightest to the West, draining the LDCs of their educated manpower. For years the transfer of human capital from developing to the developed countries has generated a sense of despair for the LDCs with frequent alarms from various international organizations such as the United Nations. Receiving societies, on their part, have also despaired over the extent to which foreign-born professionals displace native workers in various professions. Altogether, concern over brain drain in the early decades had acquired a negative connotation with frequent references to the cost of emigration. The literature remained deficient in conceptualizing other facets of the phenomenon.

In recent decades, the discourse on brain drain has shifted to include other aspects of brain drain: such as the benefits that could potentially undo the harm borne by the sending countries. Popularly termed as 'brain gain', it primarily looks at contributions (both monetary and knowledge) that 'Western trained knowledge workers' can make to their home countries. Increasing importance of networks as well as monetary benefits has led to many conceptual and empirical developments in the study of international

migration of the highly skilled. Other stylized terms such as 'brain exchange' and 'brain circulation' have also come to the fore. Here the former refers to no net loss or gain of human capital, but movement between areas, and the latter to the circulating immigrants who would bring back valuable experience and know-how to their local economies. This positive aspect of brain drain thus ushers in a sense of hope: both for the Diaspora members in their countries of settlement, and for their home countries.

From Boston to Beijing to Bangalore, expatriates in the United States are now returning to their homelands or at least sending their investments. In some cases, the reasons behind this 'brain gain' have been purely economic – technology professionals who have struck it rich in Silicon Valley are finding that their money goes a long way back home. The business-process outsourcing (BPO) has become a \$200 billion industry in the case of India that with a fifty million potential English speakers serves as one of the most sought after destinations in the world. For some, building the networks (technologically and monetarily) for their countrymen is almost a duty (as seems to be the case in China); for others, it's the chance to be a bigger fish in a smaller pond (case study Taiwan). Developing countries like India are in fact accelerating the migration, sweetening the rewards for high-tech workers by pushing development in their technology sectors, cutting taxes and loosening immigration laws. "Of all the NICs and developing countries, India stands out for the degree to which its government has intervened in the IT sector and for the complexity and nuance of that intervention."¹

With renewed interest in emerging global economies such as China and India, the choice of India as case study for both 'brain drain' and 'brain gain' is both timely, and

¹ Jason Dedrick and Kenneth L. Kraemer, "Information Technology in India: The Quest for Self-Reliance," *Asian Survey* 33 number 5 (May 1993): 463-492.

relevant. With continuing migration of human capital to the United States on one hand, and reaping the benefit of its manpower on the other, the Indian Diaspora plays a significant role in bridging India and the United States, impacting the bilateral relationship between them. The Indian 'Silicon Valley experience' further underscores far-reaching transformations of the relationship between immigration, trade, and economic development in the 21st century. Where once the main economic ties between immigrants and their home countries were remittances sent to families left behind, today more and more U.S. trained skilled immigrants eventually return home. Those who remain in America often become part of transnational communities that link the United States to the Indian economy. These new immigrant entrepreneurs thus foster economic development directly, by creating new jobs and wealth, as well as indirectly, by coordinating the information flows and providing the linguistic and cultural know-how that promote trade and investment with their home country, India. Furthermore, through the 1.6 million Indo-Americans, India has created a positive image of itself that is both visible and tangible. The direct and indirect lobbying efforts of this group have resulted in political benefits for India, first during the Clinton years and now through the Bush Administration.²

As a conclusion to this discourse on brain drain and/or gain, this chapter summarizes the main findings from the empirical discussions of this dissertation. It also returns to some of the theoretical and policy-oriented concerns raised in Chapter II, Chapter IV, and Chapter VII.

² The co-operation agreement in March 2006, between India and the U.S., which is still to be ratified by the US Congress, gives India access to US technology, although it has not signed the Nuclear Non-proliferation Treaty.

LINKING THEORY AND EVIDENCE: MAIN FINDINGS

This dissertation had made an attempt to link theory and evidence associated with brain drain. After having discussed the origins, concepts, theoretical models, and counter-measures of brain drain in Chapter II, it goes on to discuss the current literature available on brain gain (through remittances, return, and network approaches).

The literature and evidence for remittances and savings was the best quantified and discussed, with an increasing number of studies available annually by the World Bank and the IMF. By providing information on the top receiving, and the top source countries of remittances, the discussion cuts across countries and regions. The traditional literature on remittances, that painted a rather negative picture, was also tackled, and to some extent countered. Diaspora networks and the evidence for 'brain circulation' were also well defined and well documented for many countries such as China, Colombia, India, Singapore, South Africa, and Taiwan. The biggest problem encountered here was that of measurement, as knowledge and technology transfers and know-how remain intangible and less visible. Brain circulation remains closely linked to the claims made by 'growth theories' in the 'human capital paradigm' that skills and education are lost through movement of people. Growth theories further emphasize the role of 'knowledge' that is not location-specific and through 'knowledge networks' consider this to be a paradigmatic shift from the earlier literature on brain drain.

The available literature on motives for return migration proved to be most inconsistent with the available empirical evidence, specifically for emerging global economies. The classic literature on return motives classifies it as four distinct types: (1) voluntary, at the end of the migration period; (2) other factors such as intolerable working

conditions, changes in motivation, or family issues prompting return; (3) end of the project with the completion of the economic activity; and (4) return generated by crises such as health or legal reasons, or war-like situations. By introducing a fifth category, return generated by pull factors at origin,³ this work adds to the literature on push-pull theories with country examples.

The choice of case studies for understanding this phenomenon proved to be challenging initially. United States was a clear choice for receiving country as the U.S., more than any other country, has conducted research and documented immigration statistics since 1820. The initial choice for sending countries in this research had included Brazil, India, and Ireland, three countries with an ongoing record of brain drain. However, due to lack of data/available of data for some countries in a different language prompted me to decide on India as the sole sending country. Furthermore, an internship with the Ministry of External Affairs in may 2003 in the PBD division (Non Resident Indian NRI division) provided me with the necessary documents, such as the high-level committee reports and hands-on experience of a sending country government in its policy choices vis-à-vis its Diaspora.

The relationship between India and the United States is also currently in its most evolving phase with increasing visits by heads of states of both countries and economic and nuclear deals, reversing decades of disengagement by them. Chapter III provides a good historical background of the relationship between the two countries both during, and after the Cold War. In addition to economic and political, migration linkages between them has impacted their bilateral relationship in new and innovative ways. Their

³ Investments in businesses, health, and education sectors back in the sending countries.

sheer numbers, 65,472 in 2004,⁴ has rendered for them the second highest immigrant group after Mexico. Incidentally, Indian immigrants are also second in Canada. Among Asians, Indians are the third highest immigrant group after Filipino American, and Chinese American communities. With these new linkages, between political, economic, and migration, with visible benefits for the home country, the literature on brain drain takes a departure from its traditional stance to explore new avenues for gain (explained through the second hypothesis).

The maxim, “*give us your tired, your poor . . . your scientists and your mathematicians*” at the beginning of Chapter IV, perhaps best describes the future of immigration laws and brain drain into the United States. Through milestones in the history of major immigration laws in the U.S. it can be inferred that the massive influx of foreigners were better educated and skilled than their contemporaries, either in their home countries or even in the United States (in some instances). Concerns about brain drain were heightened when the United States abandoned the national quotas enacted in the 1920’s and changed its immigration laws in 1965 from one of discrimination, based mainly on *national origins*, to one of discrimination based on *skill*. Brain drain can be measured best by observing the trend of selective recruitment of skilled workers and students. According to Table 18, it can be noted that a tremendous increase took place in the employment-based category of the non-immigrant class almost doubling in nine years from 85,336 in 1995 to 155,330 in 2004. Asians, from the top five sending countries of China (People’s Republic), India, Philippines, Republic of Korea, and Vietnam, predominate this wave of immigrants admitted after 1965. As an illustration, temporary admissions in the H1 B (specialty occupations) and F1 (student) categories, although

⁴ Refer to Table 10 in Chapter III

smaller as compared to other non-immigrant categories, such as tourists and business people, remain important in the discussion on brain drain. Their significance further lies in the fact that an increasing number of H1 B beneficiaries take legal steps to adjust their status from temporary to permanent. Students too, usually settle in their new countries of residence, incurring huge losses to their home countries. India features in a big way through the H1 B category. It remains the highest beneficiary in the last three years, 2002 (64,980), 2003 (79,166), and 2004 (85,536). In comparison, China was second in 2002 and 2003 with 18,841 and 20,063 respectively, a marked contrast with India. For 2004, the United Kingdom was second with 32,134 H1 B beneficiaries. In fact, a typical H1 B beneficiary in 2002 was Indian, median age 29, median income \$60,000, with an education of either bachelors' or masters' in computer-related occupations.

Immigration and immigration laws have been viewed negatively by sending countries, since it represents a much-calculated attempt to drain the LDCs of their trained, and educated manpower. For the receiving country, in the recent U.S. debate over making more H1-B visas available for highly skilled immigrants, the discussion began—and ended—with the extent to which immigrants displace native workers, without accounting for the effect of these high-tech immigrants on new jobs, and wages at home.

Very often, the discussion on brain drain focuses on the broad statistical implications of exit and entry, especially those of the highly skilled and educated. These views have not been broad enough to describe what is happening in the United States today, specifically with regard to brain drain from India. The concern that Indian immigrants displace native workers needs to be weighed against the fact that foreign-born

scientists and engineers have been starting hundreds of new businesses and generating jobs and wealth for the U.S. economy on the one hand, and returning to their home countries and generating capital and investment on the other, thereby converting it into a gain. In a new policy environment, analysts and policymakers must recognize this new reality. Economic openness has its costs, to be sure, but the strength of the U.S. economy has historically derived from its openness and diversity—and this will be increasingly true as the economy becomes more global. As Silicon Valley's new immigrant entrepreneurs suggest, Americans should resist viewing immigration and trade as zero-sum processes.

Regardless of this, it is difficult to predict the future of immigration of the highly skilled manpower to the United States. At best, current data and facts suggest that there is little likelihood of it going down in future. The fact that Asian immigration has increased almost tenfold between 1965 and 1990, suggests that legislative policies within the United States will support this trend. Although the events of September 11th have reshaped the debate over immigration in general, there is no way of predicting one-time factors – such as terrorist attacks, wars, revolutions, and natural disasters – impact on migration patterns, on the whole.

Chapters V to VII apply the case studies of India and the United States in the discussion on brain drain by providing empirical evidence for the three hypotheses postulated in Chapter I. Since the subject of brain gain is increasingly linked to development for the home country, hypothesis 1 – *Diasporic communities can become agents of development for their home countries by direct benefits that will outweigh the costs* – measures (tangible and intangible) benefits in Chapter V. Before embarking on

the benefits, the chapter begins with a brief discussion on the costs of emigration to the sending country. According to empirical evidence available in India, the number and category of skilled people actually migrating remains patchy and inaccurate. In addition, in a highly populated country like India, out-migration is seen as a logical consequence of the imbalance created between education and employment. Finally, since a large part of benefits comes through networks, *it is not easy to quantify the benefits but it is very easy to quantify the costs.*

Remittances alone could count for a reverse brain drain when looking at India. In recent years NRI remittances have played an extremely important role in India's economic development at the micro-economic level. NRI deposits have helped India in averting its balance of payment crisis, carrying developmental work, and servicing international debt. This has also been sharper for India as compared to many other countries. As the world's largest recipient of remittance inflows in 2003-2004, rising to over US\$17 billion in 2003 (Table 25), a strong growth in remittances and services has contributed to a current account surplus of 1.7 % of India's GDP. Despite the significance of NRI deposits for India's balance of payments, there was relatively little research to date on their determinants or stability. Thus, it is fairly difficult to conclude whether the decision to remit was altruistic in motive. What can be observed is that with an increase in the number of migrants from India to the United States and the migration of high skilled worker's, over time, private transfers to India on current account have been very robust in the past decade. Additionally, NRI foreign direct investment (FDI) of an amount close to \$ 1 billion and deposits to over \$25 billion sheds light on important

questions relating to motives or reasons for investing in India and why should the world look at it as an important investment site.

Examples of return migration, few and far between throughout the 1970s and 1980s, enumerate the high rate of return of professionals from the U.S. to invest in start-ups and other ventures in India. The reasons for this have been both pecuniary (monetary) as well as non-pecuniary (personal reasons, family ties, philanthropy, etc). It is generally observed that returnees voluntarily come back to by choice rather than compulsion (category 5 in Table 2, as discussed earlier). Most of the data collected for return have been secondary sources, owing to the lack of data on return. This is the only phase of migration that remains elusive as a field. On the positive side, returned migrants invest in business, health, and education sectors.

The professional and social networks that increasingly link Indian entrepreneurs to their counterparts at home, not only provides shared information, contacts, and trust, but also allow local producers to participate in an increasingly global economy. This concept of 'brain circulation' is an increasing form of brain gain with the importance of knowledge networks becoming primary. The various links between Silicon Valley and the twin cities of Bangalore and Hyderabad in India, exemplifies this theory. Indian entrepreneurs have thus been able to build a two-way bridge, connecting them with India's technology community. Furthermore, overseas Indians have taken advantage of their position in the American companies they work for to invest directly in India, especially in the Information Technology (IT) industry.

Chapter VI examines the second hypothesis: *skilled migrants with high levels of education and income are more likely to influence (economic and political) investments*

for their country of origin and whether they can be utilized as soft power to redefine asymmetrical relationships between country of origin and destination. Indian migrants in the U.S. have accorded for themselves a level of visibility through their successes, affluence, and education. Prominent in fields such as IT, media, liberal arts, finance, hospitality industry, and the academia, Indo-American names and faces have become commonplace in the United States. Registering high numbers in virtually all states of America, the Indo-American community has exercised their political influence for benefits to India through their lobbying efforts, both directly and indirectly. There benefits were both economic and political in nature. Important examples include: (1) providing generous funds to Presidential elections in 2000 and 2004; (2) mobilizing their concerns through political organizations such as the 'Indian American Center for Political Awareness' (IACPA) and the 'Indian-American Forum for Political Education' (IAFPE); (3) registering an increasing number of South Asian candidates in the U.S. Senate, U.S. House of Representatives at the State and Mayoral level; (4) working hard with the Senate Caucus groups such as the 'Friends of India caucus'; and (5) registering a high level of involvement visits of heads of state by both countries. This political benefits coming out of Diaspora efforts, rendered the relaxations U.S. economic sanctions after India conducted nuclear tests in 1998, setting up of the U.S – India Science and Technology forum, and currently, in a new round of nuclear deals (transfer of nuclear technology) between the two countries.

These developments have changed Indo-U.S. relations to some extent. The question I raised in Chapter II and again in Chapter VI, is that to what extent does this change the asymmetrical interdependent (AI) relationship between them? The study of

Diaspora groups as elements of soft power is also a recent phenomenon. Joseph Nye, the creator of the term 'soft power' in his latest book, "Power in the Global Information Age", refers to Diaspora as recent in the study on soft power. In three pages of a book that totals 223, he identifies a greater Congressional role for them and impacting policies through policy coordination and coalition building. This is a serious gap in the literature on 'soft power' and 'AI' as Diaspora takes on stronger roles in politics in their countries of settlement. Although I realize that 'soft power' primarily remains an American weapon, its application to other countries, and industries (such as IT) deserves reconsideration. This research is a departure from previous works in the sense that it is not an evaluation of Indo-US foreign policy towards each other but attempts to look at the areas where each country has its particular strength and how the more dependent country, India, can use its Diaspora as soft power. I conclude by saying that, while it may be true that the Diaspora uses its wealth and influence to gain benefits for the community and its home country, it remains *highly unlikely* that this asymmetry will change in the near future.

The role of the sending country, traditionally ignored in the debate on brain drain, takes on new dimensions with increasing brain gain strategies. Consequently, its role vis-à-vis its Diaspora and future policy options is explored in Chapter VII through the third hypothesis in this dissertation: *a more positive role played by the state in the sending country determines the level of return and non-return benefits.*

In the 1970s, the Indian government acted as a regulator of private sector and as a producer of computing products and services. In the 1980s, it increased its role in the private sector under the leadership of Rajiv Gandhi and acted more as a promoter of

production by the private sector with increased roles for the Diaspora. The commitment to IT was given prime importance in the 1990s with the growing importance of 'Indian Siliconnaires'. Consequently, various measures were taken by the government such as: (1) introduction of computer education at all levels of education; (2) creation of Software Technology Parks (STPs); (3) the creation of the National Association of Software and Service Companies (NASSCOM); and (4) reforms in the department of electronics (DoE) of the central government.

Recent government initiatives such as the Persons of Indian Origin Card introduced in 1999, the High Level Committee on Indian Diaspora set up in 2000, the annual Pravasi Bharatiya Divas (NRI Day held annually, and in its third year of success), and the recent move on dual citizenship, reflect this recognition of positive externalities. Notwithstanding all these initiatives by the government, economic and political bottlenecks still remains a problem for active Diaspora involvement. On a positive note, leaders in India are actively looking at their Chinese or Jewish counterparts that are actively harnessing their Diaspora for more benefits to render similar successes in India.

The real question however, is that to what extent will the Indian Diaspora be able to build a vibrant Diaspora network with their country origin? What efforts will be needed on the part of both the Indian government and members of the Diaspora for taking this 'from ideas to action'?

AVENUES FOR FUTURE RESEARCH

Political, economic, and migration linkages between India and the United States, also resonates in different spatial and temporal contexts. Other countries like Brazil,

China, Colombia, Ireland, Taiwan, Singapore, and South Africa have also experienced similar problems as India regarding the movement of the highly skilled and brain drain. Most of these countries have been able to overcome their brain drain problems and convert it to a gain for their home countries through return and Diaspora options. Meaningful partnerships with their home countries and a will to contribute have translated into successes for them.

However, the above discussion on brain drain, although providing various insights for India and the United States, remains fairly limited in geographical space and time frame. Other source and receiving countries deserve an equal focus to present a fair discussion on brain drain and gain. Furthermore, many related questions need to be answered with respect to the impact of losses in the source country. First, many studies conclude that when the “cream of the labor force”⁵ is skimmed off for export, the vacancies that are created are filled by less competent and efficient workers. In addition, emigration leads to a decline in productivity in that sector, leading to significant increase in wage levels. This causes severe dislocations in the labor market and also impairs the development potential for that country. Second, the problem for a source country is especially severe if the bulk of the emigrants include those who impart skills, thus impairing the accumulation of skills in the long term. Third, even though there is little doubt that remittances (and deposits) have a strong positive impact on the balance of payments of recipient countries, sometimes it creates a demonstration effect on non-remittance receiving households that could have a negative impact on balance of payments, savings, and investments. Additionally, remittance flows augment income

⁵ Reginald T. Appleyard, “Migration and Development: Myths and Reality,” *International Migration Review* 23 number 3 (Autumn 1989): 489.

and wealth inequalities. And fourth, although no one can dispute the long-term benefits of the out-migration, the emigration of individuals can have negative socio-political impact, especially in countries at an early stage of development and modernization. The departure of a male worker from a village, where he left his family, to a city in his own country, and then to a foreign country, causes significant changes in the type and level of responsibilities for those who remain.

Limitations also include lack of data for the fiscal year 2005, by the receiving country statistical data, and especially by the source countries. The department of Homeland Security, that prints yearbook of immigration statistics, has reports till the fiscal year 2004. Furthermore, special reports on H1 B have not been updated after 2002 as per March 2006.

Some of the other limitations in this dissertation have been the absence or brief mention of related themes such as: (1) the impact of immigrant work force on native labor force; (2) comparison of the Indian Diaspora with other Asian and non-Asian Diaspora groups in the United States; (3) impact on other legal and illegal immigration in the United States; (4) assimilation of Indo-Americans in native societies; and (5) the cultural and social assimilation of second generation Indians. These are important topics and could serve as themes for future research.

Outsourcing of businesses is another prominent issues at the turn of the century that takes on a two-fold approach, both in the political and economic sectors. As seen from the lens of 'brain drain' and 'migration of talent', the outsourcing phenomenon takes on unprecedented importance in the debate with businesses and not people, spanning the globe for greener pastures.

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APPENDIX A

1. NON RESIDENT INDIAN NATIONALS (NRIs)

Non Resident Indians generally fall under the following broad categories:

- Indian citizens who stay abroad for employment or for carrying on any business or vocation or for any other purpose in circumstances indicating an indefinite period of stay outside India.
- Indian citizens working abroad on assignments with foreign Governments, Government agencies or international/multinational agencies such as the United Nations Organization (UNO), the International Monetary Fund (IMF), the World bank, etc.
- Officials of central and state Governments and public sector undertaking deputed abroad on assignments with foreign Government/ agencies/ organizations or posted to their own offices (including Diplomatic Missions) abroad.

NOTE: Non-resident Indians become resident in India only when they come back to India for employment or for carrying on in India any business or vocation indicating an indefinite period of stay in India. They are not regarded as persons resident in India during their short visits to India for example on holiday, leave etc.

2. PERSONS OF INDIAN ORIGIN (PIOs)

For the purpose of the facility of opening and maintenance of various types of bank accounts and making investments in shares and securities in India, a foreign citizen (not being a citizen of Pakistan or Bangladesh) is deemed to be a person of Indian origin if:

- He, at any time, held an Indian passport, or
- He or either of his parents or any of his grand parents was a citizen of India by virtue of the Constitution of India or Citizenship Act 1955 (57 of 1955).

A spouse (not being a citizen of Pakistan or Bangladesh) of an Indian citizen or of a person of Indian origin is also treated as a person of Indian origin for the above purpose provided the bank accounts are opened only jointly with their NRI/PIO spouses.

3. OVERSEAS CORPORATE BODIES (OCBs)

Overseas Corporate Bodies (OCB) means a company, partnership firm, society and other corporate body owned directly or indirectly to the extent of at least sixty percent by Non Resident Indians and includes overseas trust in which not less than sixty percent beneficial interest is held by Non Resident Indians directly or indirectly but irrevocably.¹

¹ Source: Reserve Bank of India

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