

Chapter 5

Higher Education in a Globalised World, Brain Drain, Student Mobility and Remittance Issues

5.1 Introduction

Higher Education in the 21st century is a globalised and a viable endeavour. The role of nations is weakened to a great extent, yielding place to private participation. The yearly profits from higher education are predicted at \$ 30 billion. Globalisation has obliged the universities to spread out their scope ahead of geographical and political precincts. The U.S., Australian and British universities setting up branch campuses in China, Singapore, and the Gulf are not uncommon phenomena now. India is following their path by allowing the foreign campuses to set up branches in Indian soil also. Universities are developing franchisees to teach their courses using their brand value by not getting involved in the direct business of teaching. Among the twelve service sectors stated by the WTO, 'education services' also falls as one. The providers of higher education are impressed by the scenario of free market and globalisation of higher education sector. During the preceding decades, the market surfaced as a mechanism of public strategy in Europe. Thatcher's government delineated the three **E**s for managing the public sector: **E**conomy in the acquirement of resources, **E**fficiency in the consumption of resources, and **E**ffectiveness in the accomplishment of objectives (Sizer, 1990).

Amaral (2007) views those countries exporting higher education, such as the U.S., U.K., and Australia have started codes along with principles of fair practice for the assertion of academic excellence in terms of education services for foreign students. O'Malley (2014) cites the example of United States' universities which continue to dominate the top 500 in newer rankings done by different organisations. The migration of skilled persons from India has assumed a situation of chain migration, as suggested by Banerjee (1983) where migration induced by urban-based contacts is low if the sectors where job opportunities are growing are dominated by non-migrants.

5.2 Higher education system in developed countries

Worldwide, higher education has experienced several changes that can be summed up as a process of internationalisation, globalisation, commodification, and massification. Over the next few decades, higher education will continue on a path of unparalleled transformation. There are a number of forces at play, from technology to urbanisation, and how they evolve in the coming years will determine the nature of higher education globally, its mode of delivery and the rules of engagement among stakeholders. Government spending on tertiary education (as a proportion of all spending in education) is declining and so,

spending on research and development is shifting to funding being directed to applied (as opposed to pure) research. In turn, ‘big science’ projects are progressively being funded by industry and subjected to the global objectives of enterprises. The role of governments in setting and pursuing public agendas is being eroded by weakening trust in institutions (higher education included). By contrast, multinational companies are playing a more prominent role in the decision-making processes of national governments. Short-term exchanges (such as the Erasmus programme under the auspices of the European Commission or the ASEAN International Mobility for Students) are likely to be strengthened as governments, funding agencies, enterprises and students realize the gains by students from such experiences (for example, soft skills). New corridors of study abroad activity are likely to emerge, and these will be more in a two-way mode (for instance, the U.S. students of Mexican origin studying in Mexico and vice versa; German-Polish cross-border mobility); in part, these developments will be driven by the increased role of Diaspora population in opening new channels of economic and knowledge activity. The global footprint of institutions and systems is likely to become greater in scope and complexity in relation to strategic partnerships (for example, the Monash–Warwick Alliance; INSEAD’s multiple partnerships with Wharton, Tsinghua, Columbia and MIT). The MOOC-isation of higher education will have settled, in that the disruption it caused in the education-services industry will have been embraced and alliances of partners across several industries will have been established. In the long term, MOOCs will enhance the quality of the educational experience and will be seen as an additional learning resource. Accreditation and recognition of qualifications will be standardised and probably homogenised among those countries with trade-in-services agreements. This move is likely to boost international student mobility. Private provision and personal contributions to education will become prevalent globally. Boundaries between public and private providers will become more blurred due to government cuts and increased private contribution. The gap between large, elite, for-profit, quasi-public universities and the rest will be considerably wider. This may trigger mergers and is likely to influence where international students choose to study.

5.3. Higher education in the United States

Higher education in the United States consists of a diversity of institutions of higher learning. High quality research and enough funding have enabled the colleges and universities of United States to be among the world's most important institutions – thus making them major destinations of international students, professors as well as researchers in

the search of academic distinction.² There is a 4,495 Title IV-eligible, degree-granting institutes; out of which 2,774 are four year and 1,721 two year institutions in the United States.³ The accreditation agencies rate universities and colleges for assessing academic quality as a measure of the quality of the degrees the U.S. institutions offer. The United States has had a wide-ranging arrangement of both public and private higher education institutions for over more than 200 years (OECD, 2009). According to the Encyclopedia Britannica,⁴ a noticeable trait of American education system is its resemblance to the German model due to it's the de-emphasis on lecture and examination process. In both Germany and United States, students are assessed in line with their performance in individual courses because of the importance of discussion and written essays in the evaluation system. The U.S. model of higher education was accepted by the Philippines and encouraged the reforms in the educational systems of Japan and Taiwan following World War II.

The STEM students in the U.S. from different countries are recorded by the National Center for Science and Engineering Statistics (NCES) every year. The NCES (2016) data shows the enrolment pattern of international students in the United States. The Doctorate-granting institutions characterised by very high research activity are the foremost producers of S&E degrees at the bachelor's, master's, and doctoral stages, but other institutions are also essential in educating S&E graduates. The following facts and figures reveal the enrolment in the U.S. institutions.

- In 2013, doctorate-granting institutes with notably high research activity awarded 73 percent of Ph.D. degrees, 41 percent of master's, and 37 percent of bachelor's degrees in Science & Engineering subjects.
- Master's awarding colleges and institutions awarded 29 percent of all Science & Engineering bachelor's degrees along with 26 percent of all S&E master's degrees in 2013.

² The World University Rankings: Measure by measure: the US is the best of the best, <http://www.timeshighereducation.co.uk/world-university-rankings/2010-11/world-ranking/analysis/usa-top-universities>

³ http://nces.ed.gov/programs/digest/d10/tables/dt10_275.asp

⁴ See Encyclopaedia Britannica online at <http://www.britannica.com/EBchecked/topic/265464/higher-education/284185/The-system-of-higher-education-in-the-United-States>

Higher education expenditure and revenue patterns and also the trends have shown significant changes over the last two decades.

- From 1987 to 2012, the revenue per full-time equivalent (FTE) student received from net tuition at public very high research universities more or less tripled, whereas state and local appropriations decreased by almost 40 percent.
- Even though tuition fees were lower at public very high research universities compared to private counterparts, the average revenue earned from student tuition amplified more quickly at public institutions.
- In public very high research universities, revenues produced from federal appropriations, grants, and contracts per FTE student rose by almost 80 percent from 1987 to 2012, and research spending per FTE student also rose by 75 percent during the equivalent period. In private very high research universities, the proceeds from federal appropriations, grants, as well as contracts per FTE student witnessed a growth of 60 percent, and research expenditures per FTE augmented by 90 percent.
- Between 2008 and 2010, increasing enrolment in community colleges, in addition to declining state and local appropriations, contributed to about 10 percent decrease in instructional expenditure per FTE student. The instructional costs per FTE student continued to drop in 2011, but increased in 2012, with a bigger fall in enrolment as the U.S. economy improved.

Between 2009–10 and 2014–15, average net tuition plus fees paid by full-time undergraduate scholars in public 4-year colleges had growth by almost 50 percent after inflation adjustment.

- Levels of debt of doctorate holders also vary by field. In S&E subjects, a high graduate debt was widespread among doctorate candidates in social sciences, psychology, as well as medical and other health sciences.
- At the time of PhD degree conferral, about 45 percent of 2013 S&E doctorate holders had debt connected to their undergraduate or graduate education.
- Associate's colleges enroll highest students, followed by master's and doctorate institutions having very high research activity.

Graduate enrolment in S&E improved from about 493,000 to above 615,000 from 2000 to 2013.

- Graduate enrolment had growth in the majority of S&E subjects, with strong growth in engineering and in the biology.
- Women admission was low as usual at excessively low rates in engineering (24 percent), computer sciences (26 percent), physical sciences (33 percent), as well as economics (37 percent).

In 2013, the federal government of USA supplied monetary support for 17 percent of full-time S&E graduates, which is the lowest proportion since at least 1998.

- The recent drop in S&E graduate students with federal fiscal endorsement was obvious in the biological sciences from 35 percent in 1998 to 29 percent in 2013 and in the physical sciences, the fall was from 35 percent in 1998 to 28 percent in 2013.
- In 2013, the U.S. federal government contributed 60 percent of S&E graduates with traineeships, 48 percent with research assistantships, and 23 percent with fellowships.
- Graduate students in the biological sciences, physical sciences, as well as engineering subjects received comparatively better federal financial support than computer sciences, mathematics and statistics, medical and other health sciences, psychology, and social sciences and so on.

Between fall 2013 and fall 2014, the number of international graduate scholars improved by 18 percent in S&E subjects and by 6 in non-S&E fields.

- A larger share of international graduate students was there in comparison with international undergraduate students enrolled in S&E and above 6 out of 10 international graduate students in the USA in fall 2014 got enrolled in S&E fields, in comparison to about 4 in 10 international undergraduates.
- Between fall 2013 and fall 2014, the international graduate students in S&E subjects boosted frequently in computer sciences and engineering.
- In fall 2014, more than two-thirds of the international S&E graduate students in the U.S. belonged to China and India.

Masters degrees awarded in S&E swelled from 96,000 in 2000 to almost 166,000 in 2013. This period had the growth of S&E degrees at the Masters level i.e. 73 percent, which was higher than growth at the bachelor's, i.e. 54 percent and doctoral levels (47 percent).

- The number of Masters awarded in engineering in 2013 was the maximum in last 14 years. The number of master's degrees in computer science awarded in 2013 exceeded its earlier record in 2004.
- Increases were seen in the majority of major S&E fields, with the principal increase in engineering, psychology, and political sciences along with the public administration.
- The number and percentage of master's degrees awarded to women candidates in nearly all major S&E fields have increased since 2000.
- The number of S&E master's degrees enlarged for groups from 2000 to 2013. As the share of degrees earned by blacks plus Hispanics increased, and that of Asians became flat, and that of whites decreased.

In 2013, the U.S. higher academic institutions awarded about 39,000 S&E doctorates (excluding other health sciences).

- The number of S&E doctorates awarded every year by the U.S. universities improved progressively from 2002 to 2008, and then flattened and declined only to some extent in 2010 but has been rising since then.
- The largest increases in doctorate degrees awarded from 2000 to 2013 were confined in engineering (76 percent) and in the biological sciences (57 percent).

Students who are on provisional visas continue to earn very high extent of American S&E doctorates, including the bulk of degrees in at least some fields. They also earned major shares of the master's degrees in S&E subjects.

- In 2013, the international scholars earned 57 percent of all engineering PhDs, 56 percent of all economics PhDs, 53 percent of all computer sciences PhDs, and 44 percent of all physics PhDs. Their general share of S&E degrees was 37 percent.

- After very high growth between 2002 and 2008, the number of temporary residents receiving S&E doctoral degrees fell during 2010 but has been rising since then.

In 2012, the students in China earned about 23 percent, while those in the European Union earned almost 12 percent, and those in the U.S. earned about 9 percent of these degrees.

- From 2000 to 2012, the number of S&E first university degrees awarded in China, Taiwan, Germany, Mexico, Turkey doubled. It rose slowly by about 50 percent in Australia, the U.S., and Poland, and fell in France, Spain, and Japan.
- S&E degrees comprised of one-third of all bachelor's degrees awarded in the USA. In Japan, approximately 6 out of 10 first degrees were awarded in S&E in 2012; and in China, the figure was almost half.

In 2012, the U.S. awarded the highest number of S&E Ph.D. degrees of any individual country, followed by China, Germany, and the U.K.

- The numbers of S&E Ph.D. degrees awarded in China and the U.S. have grown in recent years.
- In 2007, China overtook the U.S. as the world leader in the number of Ph.D. degrees awarded in natural sciences and engineering disciplines. Since 2010, the number in China has been fairly steady.

International student mobility expanded during the past two decades, as several countries are increasingly competing for international students.

- The U.S. is an admired destination for the largest number of globally mobile students worldwide (undergraduate and graduate), although its share declined from 25 percent in 2000 to 19 percent in 2013.
- In addition to the U.S., others that are among the most sought-after countries for global students include the United Kingdom, France, Australia, and Germany.

Gu (2017) has discussed the future outbound mobility among Indian students shift in coming years. The issues that the enrolment managers also think are mentioned. India is the only country that is to come close to China as a top source of origin for qualified scholars and is currently the number two sender to several high ranked and emerging education destinations, located in the U.S., Canada, and Australia. Many countries have observed Indian enrolments grow, although numbers from other top senders such as South Korea, China, and Saudi Arabia have either slowed down or dropped. India's demographics and fiscal growth trajectories point out that it will likely remain a top sender for many years to come. Indian student mobility has historically been tied to work opportunities, and also to perceptions of safety. Understanding the unpredictability of Indian student movement to key destinations, and the issues that contributed over the last decade is very important in predicting what may turn out going forward. The broad story of outbound mobility from India between 2005/2006 and 2014/2015 is one of growth. Seven top and emerging destinations such as the U.S., Canada, the U.K., Australia, China, New Zealand, and Germany together experienced the Indian enrolments growing to 103 percent. As a study abroad destination, the U.S. enjoys a sheer volume of its education system.

The worldwide popularity of the American higher education stems from this fact that most of the higher educational institutions in the United States occupy very high ranking according to the Times international ranking. In international rankings over half of the top ranked 100 universities, and eight out of the top ten, belong to the U.S. The scientific output of American institutions is unparalleled. They generate the majority of the world's Nobel laureates in addition to high quality scientific papers. Furthermore, college graduates still earn far more and also get better benefits compared to those without a degree. Most of the top performing U.S. Institutions are old and possess enough resources in their corpus. The basic methodology for 2016 Times rankings is same as the 2011-12 tables, but some important changes are made in the underlying data.

The performance indicators may be grouped into five areas:

1. Teaching (the learning environment)
2. The Academic Reputation Survey
3. Staff-to-student ratio, Doctorate-to-bachelor's ratio, Doctorates awarded-to-academic staff ratio,
4. Institutional income
5. Research; such as volume, income, and reputation linking reputation survey, research income, and research productivity, Citations indicate research influence, International outlook such as staff, students and research etc. International-to-domestic-

student ratio, International-to-domestic-staff ratio, International collaboration, Industrial income, i.e. knowledge transfer.

The U.S. Institutions enjoy their superiority regarding the above-mentioned categories as obvious from different rankings.

The Times World Ranking of Universities 2016 in the following table finds the excellence of the U.S. Institutions.

Table 5.1
Top ranking higher educational institutions (world) Times Ranking 2018

World University Rank 2018	World University Rank 2017	University	Country/Region
1	1	University of Oxford	United Kingdom
2	4	University of Cambridge	United Kingdom
=3	2	California Institute of Technology	United States
=3	3	Stanford University	United States
5	5	Massachusetts Institute of Technology	United States
6	6	Harvard University	United States
7	7	Princeton University	United States
8	8	Imperial College London	United Kingdom
9	=10	University of Chicago	United States
=10	9	ETH Zurich – Swiss Federal Institute of Technology Zurich	Switzerland
=10	13	University of Pennsylvania	United States
12	12	Yale University	United States
13	17	Johns Hopkins University	United States
14	16	Columbia University	United States
15	14	University of California, Los Angeles	United States

World University Rank 2018	World University Rank 2017	University	Country/Region
16	15	University College London	United Kingdom
17	18	Duke University	United States
18	=10	University of California, Berkeley	United States
19	19	Cornell University	United States
20	20	Northwestern University	United States

Source: Times World University Rankings 2018

It is obvious that out of top 20 universities in the world there are 15 universities from the United States. It suggests the Supremacy of the American Universities and due to which the international students from the developing countries pursue higher education in those universities.

5.3.1 Causes of American superiority in higher education, especially STEM education

Unlike the tertiary educational arrangements of other parts of the globe, the United States lacks a central Ministry of Education. This is the noteworthy trait of American higher education system. The U.S. Department of Education is certainly the smallest federal department and it has no responsibility to run schools or universities or issue diplomas. It also has no role in writing or choosing curricula. Consequently each college or university chooses the ways to teach its students. Thus diversity leads to the first big strength of U.S. higher education. With more than 4,000 recognized colleges and universities, the American system presents so numerous learning choices that practically all students can study according to their need. Flexibility is the second strength of the U.S. education system, which continues to put the universities of U.S. at the top in international university rankings. The third great strong point of U.S. higher education system is its global students. International students carry novel attitudes to the classroom, new understanding to campus, in addition to innovative research ideas nationwide (international student guide to the United States, undated).

- The U.S. higher education enjoys heavy investment from government and private sources. Thus funding is an important issue. Monetary support for both

private and public higher education derives in two primary forms, such as Grant programmes and loan programmes (College Board, 2007).

- Grant, scholarship, and work-study programmes can be separated into two main categories: Need-based financial awards and merit-based financial awards. The majority of state governments offer need-based scholarships and a handful also offer merit-based aid (Levitz et al, 2012).

5.4 Higher education in the developing countries with special reference to India and associated challenges

The character of World Trade Organization (WTO) is influencing the development of global money matters. In the current situation of the knowledge economy, the importance on scientific skill in the higher education taught in India seems to be important. From R&D along with scientific research, India's commercial research market has further broadened to financial plus economic research. India's corporate hospitals often treat several hundred and thousands, foreign patients, every year and India has emerged as one of the most preferred medical destination countries in Asia for offshore patients. The corporate multinationals have increasing presence providing R&D services in India or have an alliance with Indian companies or educational or research organisations. The cost advantage of higher research is huge. For example, an Indian chip design engineer is generally paid far less than in the U.S. On the *demand side*, less than 10 percent of Indians decide to pursue higher education. This is a dichotomy where India's massive higher education system, still insufficient to cater to the volume of candidates for higher education, is conversely producing many more graduates from its middle and lower ranked institutions able to secure appropriate employment. This happens due to limited employment opportunities and also there is a divergence between the degrees obtained and the demand for service. Therefore, scarcity of skilled labour in vital fields along with persistent oversupply and ensuing joblessness of graduates in traditional fields has remained a problem. With the advent of globalisation, there is a massive requirement for Indian higher education to present a platform for steady incorporation of its degrees with the best existing in the world because of the fact that the mobility of skilled people has picked up recently and India is in the process of gradual evolvement into a knowledge society. Lack of qualified and trained faculty, bureaucratic administration continuing to asphyxiate the Indian academia have further reduced the competitive advantage of Indian institutions of higher education. There is, as a result, a need for institutes of higher education to permit teaching staff more payment, liberty to become involved in consultancy

activities and avail of attractive benefits like housing amenities lest elevated wages are not permissible. In some instances, concerted labours between Indian public institutions and foreign institutions do not succeed as institutions in India hardly take care of higher salaries to foreign teachers. On the *supply side* this massive demand and supply gap, the incapability of the majority of Indian students to pursue studies overseas, and also the value accorded to overseas degrees in India has provided a striking prospect that several western universities along with technical colleges are beginning to discover. Indian institutions are also forming a joint venture with recognized foreign educational institutions to offer coherent professional courses in business management as well as media studies.

The thoughtless and non-productive policies as opined by Palshikar (2010) have compounded problems in India's higher education sector. The increasingly privatised higher education has raised the possibility of the reduced role of government in education. The prominence of private players in higher education has drawn criticisms from different quarters in recent times. Bhushan (2013) finds government document suggesting the review of —not-for-profit approach in higher education on —pragmatic basis. Nayak (2013) views that the main underlying principle for privatising higher education has been *access*; because of the fact that few universities exist for the huge numbers of the young populace who desire or need to enter university education. India faces a dilemma as it has a huge illiterate population despite the Constitutional provisions for free and compulsory education. Conversely, the expansion of the knowledge sector together with Business Process Outsourcing (BPO) is sending a novel indication to the financial system. India's current growth is due to its service sector, largely boosted due to the ICT revolution. However, India is at present moving upwards the value chain —thus superior R&D efforts are needed and requirement of knowledge workers have become more important rather than manual workers. The export of service sector needs a stable supply of greatly skilled human resource which can be sustained by a vigorous higher education system together with a developed internet infrastructure which is profound and broad. The government's motivated programme (as revealed by various newspapers) focusing on increasing enrolment in higher educational institutions is to obtain Rs 500 crores for 2013-14. A considerable allotment is also for establishing 200 community colleges in India, above and beyond research parks as well as innovation centres.

The Rashtriya Uchchar Shiksha Abhiyan (RUSA) intends to grow the institutional base of tertiary education by creating additional capability in existing institutions, instituting

new institutions and inducing state governments. Nevertheless, the policymakers now face the dilemma of investing more in primary education with increasing population of the country, while attaching importance to higher education also. The findings as mentioned may be compared with the study of Altbach (2012a: 11), who finds the rate of return migration back to India and China less attractive for the foreign trained graduates as well as Ph.D. holders. Though a few countries, like China, present inducements for top graduates for homecoming, such programmes are diminutive and serve merely the top cream of the crop. For many, returning the home country to join in academic establishments that may be hierarchical and also sometimes shoddily equipped is not an attractive outlook. In the rising economies, academic salaries are discouraging factor. Even in China's topmost universities, which have received enormous investments of money and have constructed imposing campuses, the academic traditions is often arduous for graduates comfortable with comparatively open and meritocratic institutions in the U.S. or other better-established educational systems. Even as conditions and remunerations may be healthier in the budding futuristic and business sectors in the promising economies of India and China, problems do persist. Earnest efforts by countries like China and India to entice their graduates back home have been mostly ineffective, as Altbach argues. Some European countries, like Germany, have also vigorously tried to persuade their Ph.D.s and postdocs to contribute to Germany by settling in their country, with only humble accomplishment.

In a paper authored by Altbach (2012b) on the higher education scenario in four BRIC (Brazil, Russia, India and China) countries, he has found significant regional centres in BRIC countries, having an impact on adjacent countries offering academic guidance in their own fields. Brazil, India, and Russia are by far the most industrious educational arrangements in their regions. In the East Asian geographical region, Japan proves to be a prevailing academic authority whereas South Korea is growing academically. However, China has witnessed the best ever growth rate and has a significant investment of resources in higher education. In South Asia, India is noticeably the most prominent educational system, with some self-effacing effect in West Asia too. All the BRICs experience a noteworthy net outward mobility of students. Students pursuing studies in the BRIC countries usually belong to neighbouring countries, thus acting as regional centres. China as a sole exception draws a major share of international students, mainly from adjacent East Asian countries. China, India, and Russia also add considerably to the worldwide flow of academic endowment, with numerous Ph.D. graduates belonging to these countries working somewhere else. This brain

drain' has been rather considerable over quite a few decades or more. Notwithstanding rates of return picking up moderately and also the fresh development for a few most acclaimed academics as well as scientists to hold engagements in a number of countries, quite significant numbers of academics preferred to depart from these three BRIC countries. The causes are multifaceted and consist of improved working circumstances, infrastructure, wages, academic ambiance, academic independence, in addition to a plethora of other factors. Although many Indians in various technology fields have recently returned to the booming hi-tech sector – but not to the universities, India still lacks a coherent policy in respect of brain drain. China is well ahead of India as a consequence of two key ingenuities intended to establishing research universities. Altbach (2012b) views that despite being a country with the world's third – largest academic system; not any of India's universities are found in the top rank of any of the global rankings of universities. Only the small and specialized Indian Institutes of Technology (IITs) are internationally recognised. Moreover, the increasing significance of —unaidedll colleges is a new experience in India. Following the practice of globalised tertiary education, universities are expected to be financially self-dependent based on income from different sources including the marketing of intellectual property. Several high ranked Chinese universities have been doing well in establishing companies; e.g. Peking University's Founder Group is a case in point. Numerous Chinese universities have the investment in —technology parksll and some of these parks have produced ground-breaking industries and other business ventures. India lacks outstanding universities. India's higher education receives insufficient investment and a substantial amount of the resources are spent on paying salaries. In China's case, the gap between the best and the mediocre institutions has grown. It is intriguing that the most excellent universities are close to the top universities of the world. Considerable resources have been devoted and there have been major improvements in R&D, patents and other instruments of productivity. China's success in drawing international students from different countries of the world in recent times may be attributed to its renowned universities. As we find in Mishra's (2009) study that the better-quality educational organization in the U.S. and in Europe run full-size lecture classes by proactively putting in advanced information technology tools and assigning Ph.D. scholars as teaching assistants. The greater part of the IITs and IIMs consist of teacher-student ratios of 1:10 comparable to many of the advanced universities in the western nations consist of a range from 1:10 to 1:15. Deplorably IITs and IIMs are not optimizing their existing resources to make possible students' enrolment causing degeneration of quality. Also, in many prime universities of the world, classrooms plus laboratories are normally run

on 12 hour shift duty for optimal use of resources. This enables them to manage relatively larger student population within limited resources. Even the newly established IITs have a propensity to tag on to the older IITs as they function in thousand acres but aim to educate highest number of 3,000 students in five years as suggested in the new IIT project report presented by the HRD ministry of the Government of India to the Planning Commission in 2006. These are not solitary cases of under-utilization of limited physical resources but they also disgruntle several among 3,00,000 optimistic candidates for the IITs who fail to take admission every year, not basically due to deficiency of merit but as a result of restriction of seats in these extraordinary institutions. Israel has 21 universities in the best 500 globally and has three Nobel Laureates during the past 10 years. These universities attract the brilliant academic employees not by paying lofty wages but by presenting liberal sabbatical leaves and also allowing academic personnel to enjoy dual appointments in other U.S. and European Universities. China has productively employed American-Chinese researchers and professors to found research laboratories along with educational courses in China. A major reason for the augmented rivalry is the comparatively recent acknowledgment that global students are a budding profit centre and that earnings may assist in financing native students. In the U.K., for instance, overseas students now create some 10 percent of the whole proceeds of the higher education system, whereas in Australia, they finance about 15 percent of all revenue for the national universities (O'Malley, 2007). New Zealand and Japan now pursue identical courses with an aim of making higher education a profitable business by depending on increasing student immigration. Some small countries have shown significant growth as mentioned below.

The countries with the peak growth rates in terms of student immigration are often small. The following countries had extremely high growth rates during 2000-2006 (rates shown in parentheses) - New Zealand (725 percent), The Netherlands (160 percent), Spain (100 percent), Italy (96 percent), Japan (95 percent), Sweden (60 percent). Following independence, global student mobility was still highly valued, but currently had to assume a new-fangled explanation, driven mostly by the philosophy of nationalism plus developmentalism. Programmes like the Colombo and Fulbright Plans and also comparable policies in the Soviet Union were created to offer occasions for gifted students in the recently independent countries to obtain sophisticated, technological, scientific, and administrative education. Designed principally as a foreign aid programme, the Colombo Plan, for instance, stood for a pledge by the wealthier Commonwealth countries to offer education that was

regarded as obligatory for the progress of the new countries (Oakman, 2005). India as a vast nation has fared poorly in terms of marketing its higher education services. However, only recently the institutions of higher education in India have witnessed a growth in global students choosing India as a knowledge hub. There are several means of internalization of tertiary education; official accords through MoU have become a widespread device for intercontinental partnership, the attendance of international scholars in institutions of higher education influences the teaching, syllabus improvement, cultural communication etc., worldwide research cooperation either through official agreement or individual connections, exchange of faculty, access to best tradition in teaching as well as academic administration and through change of curriculum or adoption (Pritam, undated). Khan (2013) has found globalisation promising to bring major gains for India. Yet, the present educational panorama is not promising in terms of infrastructure, qualification of faculty, flexibility in syllabus etc. India cannot remain aloof from globalisation and must make use of the prospects the globalisation and also at the same time remain aware of the pitfalls of globalised education. As the trade in higher education gets more high-priced, the role of government becomes critical.

According to the Commission on the Future of Graduate Education in the United States (FGE Report, 2010), the key challenges facing graduate education and also the U.S. educational system as a whole are mentioned in brief.

- In the future, greater number of children entering schools will be from families with lesser education. So, fewer domestic students will possess math and reading skills that will empower them to pursue higher education.
- Population growth will cause more international migration resulting in the growth of first generation college students, and many of whom are to require additional educational skills.
- The number of non-traditional students (students who are older, working adults) is growing. They view graduate education as a means to develop their employability rather than as a means to get ready for a first career.
- The attrition level is high and time to gain degree is long, predominantly for doctoral students.

These changes point to the need to reassess how graduate students are economically supported and what kinds of supplementary resources they may require for their success in graduate schools. The altering demographics also demand a review of conventional time to

degree expectations and career pathway openings. Challenges faced by Indian higher education, especially STEM and medicine are serious. Sharma (2014) observed that growing enrolment in online higher education, the rollout of the national online education network, rapid content digitisation and faculty shortages in developing countries have resulted in high demand for eLearning products. The world market for self-paced eLearning products is projected to reach US\$ 53 billion by 2018, as per the research report by United States-based international research company Ambient Insight. As the U.S. leads sales, Asia occupies the second largest market with eLearning product revenues in Asia projected to reach US\$ 12.1 billion in 2018, up from US\$ 7.9 billion in 2013.

The proposed WTO as Altbach opines; initiatives are expected to bring pressure on the universities worldwide into sharp focus. Some view that the academia will be altered if higher education is subject to the rules of the WTO. The perspective of University serving as a broad public goods would be changed, and consecutively would be subjected to the profit-making pressures of the market controlled by the global treaties as well as legal necessities. Subjecting academia to the guidelines of a WTO-enforced marketplace may destroy the very objectives of the higher education system in general and universities in particular, which were established with great hopes of contributing towards achieving the goals of national development and identity. The implications are many fold and hardly understood. The attraction for education in the U.S. as Lavakare (2007) argues; continues to grow but the nature of mobility and its diversity is changing. During the early sixties, the U.S. universities attracted postgraduate students from India (known as graduate students in the American parlance), mainly in areas of natural sciences of Physics, Chemistry, Biology and Mathematics. These educational visits were primarily for getting a PhD degree of a quality not easily acquired in India. The American education system could easily absorb this category of students, since the U.S. academic community depended a lot on graduate students, needed for research projects sponsored by funding agencies. The U.S. universities were not looking for students as a source of revenue generation as the trend seems to be today, with focus now on undergraduate recruitment. The Indian student going to the U.S. in the past did his post-doc as part of his —training experience, permitted by the immigration rules. The situation today is very different. The Indian student plans to go to the U.S. with a long-term plan. The student and the parents are often keen that the stay in the U.S. is prolonged so as to improve their professional careers and also earn lot of money through lucrative job offers made by industry. The industry would justify the continued stay of the

student in that country by sponsoring their potential employee for a U.S. visas – a requirement under the immigration rules. This has led to increased seekers of green card holders in the U.S. and perhaps leading to a U.S. citizenship. Students preparing to go to the U.S. are now aware of various options available to them in the U.S. education system. Organizations like the United States Education Foundation in India (USEFI), with its branches in major cities are providing authentic information and guidance for entering the U.S. Educational Institutions. Under the auspices of the Institute of International Education (IIE) in the U.S., several American universities are participating in —education fairs‡ being organized in various Indian cities to recruit Indian students. The IIT students have established a network that helps the junior students to plan their admission process in a much more systematic way. The Internet explosion has further enabled easy access to information about the American education system. Competition from countries like U.K., Australia, and Canada is growing and now even countries in Europe and South East Asia are trying to attract Indian students to campuses in their countries. The American education had never used marketing strategies for promoting their education in India, but the competition from other countries in the world has forced them to participate in activities like the —education fairs‡ mentioned above. Proceeding to U.S. for undergraduate education is now becoming popular in India and this implies greater contribution of Indian financial resources to the American economy. Estimates provided by the Department of Commerce in the U.S. indicate that today the American economy is enriched by roughly \$14 billion dollars annually as a result of the presence of International students in that country. India certainly contributes substantially to this dollar inflow. The range of educational institutions where Indian students are studying now has also diversified and not just restricted to the Ivy League institutions as in the past. The presence of Indian students on American college campuses further attracts more Indian students since the word of mouth is perhaps still the most reliable source of information that improves the chances of getting admitted to the American education system. The fields of studies have also diversified, though the preference is still related to professional courses that would lead to a job in the corporate world. No doubt the number of Indian professionals in the American university system has also increased. These changes in the profiles of the mobility of scholars has certainly depleted the availability of good teachers in the Indian education market – a concern that may have a much more long term impact on the growth and quality of Indian higher education system. One hears of shortage of faculty and unfilled vacancies even in the IIT system. Efforts are being made by some research institutions to bring back professionals to work in the national laboratories. The Indian scholars, who have

studied in the U.S., prefer to work in the academic and corporate institutions there rather than to come back and teach in an Indian education institution or work in an Indian industry. However a new trend is seen in the corporate job market. Many more Indians are likely to return to India to work in the growing globalised corporate sector rather than to return to their alma mater, where the salaries are not attractive and facilities for high quality research are lacking. Indian companies have also started setting up R&D centres, particularly in the medical and the healthcare area, attracting global researchers for frontline work in modern areas of science. The academic sector has unfortunately not been able to attract Indian talent abroad; to the same extent as the corporate world has been doing. The reason for this has primarily been the fact that by and large the education sector in India is still under the government control with salaries laid down uniformly for all with no provision for —market driven salary packages. Even if one wants to sacrifice on the pay packet, the research facilities and the work environment are not yet attractive. In a small way this is changing with the emergence of the private higher education sector in India. Unfortunately, today this sector is however primarily geared towards teaching and that too at an undergraduate level and hence not very attractive for research oriented Indian scholars abroad. As India moves into the globalised world, the mobility has taken different routes and avenues. Opportunities are increasing for a meaningful return to India. Perhaps India has not changed as fast as China (as the two countries are always compared from the U.S. perspective) but both these countries have been influenced by this mobility between their countries and the U.S. The American economy has definitely benefited from this mobility. India and China have also both gained in the process – each with its own brand of politics. Society has seen some superficial changes in terms of —McDonaldization and commercialization. But in this process of change, the challenges and opportunities have also increased and it is up to individual professionals to make best of these opportunities. Agarwal (2009) has mentioned about the central government's contribution to higher education in India, which is about 10 percent of funding, as compared to 30 percent in the U.S. India is in a transitional stage of globalisation where one option is enabling liberal financing options for this sector, i.e. allowing private institutions to gather funds through public bonds or shares and second is giving priority to the sector, like providing it with infrastructure. Both the approaches are efforts to make higher educational institutions to behave and work like business enterprises. As observed by Bhushan, such steps shall make education more lucrative from the viewpoint of attracting investment, but in the long run, it would lead higher education towards commercialisation with damaging consequences (Bhushan 2013:18).

5.5 India-United States educational relations

The then Consul General of USA, Jennifer McIntyre delivered her speech at IIM, Trichy on December 13, 2012. The speech was on educational collaborations, fellowships, exchanges of student and faculty, and institutional partnerships. Another important aspect followed from 2008 to 2016 was the introduction of the US Higher Education working group (under the Strategic dialogue). India has the largest Fulbright scholar exchange programme in the world, with above 17,000 fellowships plus other grants awarded to Indians and Americans since its inception ⁵. There are five major issues which got emphasis, such as, strategic cooperation; economics, education and development; science and technology, energy and climate change, trade and agriculture; health and innovation etc ⁶ in the Indo- U.S. educational partnership.

Expanding labour force training, nurturing exchanges of students, making use of technology to make learning prospects easily accessible to large number of persons, and conducting joint research in key areas, e.g. food security along with climate change, are some of the vital areas of Indo-U.S. educational cooperation (Fischer, 2012). The bilateral tie up with the U.S. has grown during last two decades. From 2000 to 2014, three American Presidents visited India; the student enrolment, particularly in science, technology, engineering and mathematics from India has tripled in a span of a decade; India is a massive defence market of the U.S.; the U.S. has emerged as the largest trading partner of India; India earns more than 17 percent remittance income from the U.S. alone. Besides, the Indians run major research facilities in the U.S. and the Americans depend on the Indians for their scientific prowess.

⁵ The Consul General Jennifer McIntyre delivered her speech at IIM, Trichy on December 13, 2012. Building U.S.-India Ties through Educational Partnerships, published by the Embassy of United States, Chennai, http://chennai.usconsulate.gov/cg_iim_trichy_121213.html

⁶ The remarks at the U.S.-India Higher Education Dialogue by Hillary Rodham Clinton Secretary of State at George C. Marshall Center, Washington, DC on June 12, 2012.

5.6 The policy response of India

All the four BRIC countries have developed, or are developing, schemes to draw global students in great numbers. Influenced by the fast-emerging knowledge economy, India like other BRIC countries focus on developing viable and widespread technical education. There is an increasing demand for skilled technical manpower in India (Tilak, 2013). The meaning of —foreign educational institution‡; according to the bill titled as Foreign Educational Institutions (Regulation of Entry and Operations) Act 2010 is:

- (i) an institution set up or incorporated outside India which is engaged in offering educational services for a minimum twenty years in a country in which it has been established or integrated; and
- (ii) which offers services in India or offer course for the award of degree or diploma or certificate etc. through conventional method such as, classroom teaching independently or in collaboration, partnership or twinning arrangements with any educational institution located in India⁷.

The act contains a disconnected part stated as —statement of objects and reasons‡, which declares:

"A number of Foreign Educational Institutions have been operating in the count to allure and attract students. There is no comprehensive and effective policy for regulation on the operations of all the foreign educational institutions in the Country. Due to lack of policy or regulatory regime it has been very difficult to make meaningful assessment of the operations of the foreign educational institutions and absence of such meaningful assessment has given rise to chances of adoption of various unfair practices besides commercialisation"⁸.

Gurukkal (2011) wonders about the foreign education providers (FEPs) entering the country and doing their business when India had no such —policy or regulatory regimel licensing them. It is noticeable that FEPs had the unspoken approval by the central government for their access and projects in India. These foreign institutions have arrangements like twinning, collaborating as well as franchising with quite a few universities in India and thus confronting a diversity of matters hindering their function either because of the nonexistence of rules supporting or due to the pervasiveness of regulations against. Students of numerous FEPs, who have obtained degrees or diplomas at franchised centres or

⁷ See definitions in the text of the Bill, (Bill No 57 of 2010 as presented in the Lok Sabha) Foreign Educational Institutions (Regulation of Entry and Operations) Act 2010 that has been put as a public document by MHRD.

⁸ See the section on —statement of objects and reasons‡, Foreign Educational Institutions (Regulation of Entry and Operations) Act 2010.

at any Indian university under FEPs' twinning, might face problems of recognition of their higher studies or employment. He is also concerned regarding the palpable socio-economic situation of India's rank and file notwithstanding structural adjustment of the economy. The country needs to build up competitiveness and effectiveness in every sector through concentrated and sensible application of science for enhanced productivity ensuring growth of employment openings. However, enhancing competitiveness in the contemporary arrangement of higher education pigeonholed by shortage of good quality teaching professionals, problems in drawing and retaining them, pitiable technology, scarce infrastructure, unsatisfactory libraries and archaic laboratories, unrelated and redundant academic curriculum, poor responsibility, excessive subsidies, soaring dropout rates, hyper centralization, lack of academic self-sufficiency and pervasiveness of mediocrity are the issues to be tackled. Altbach (2010) has expressed his concern about the prospective foreign universities if they are allowed to establish campuses in India. The foreign universities may be interested in services where they can make profit, or in setting up advanced postgraduate centres. There is little probability of a major expansion of access. India may well discover its hopes of riding the "branch campus" policy belied.

An empirical study by Gabriel et al (2013) has proved the sluggish growth of foreign education providers is found by studying various parameters in his research titled 'Hesitation of Foreign education providers to have tie-up with Indian educational institutions'. The major aspects recognized for the 'Hesitation of Foreign education providers to have tie up with Indian educational institution' are the 'difficulty in running the course from abroad' and 'not an attractive proposal'. Therefore amenities resembling foreign educational institutions in developed countries have to be provided in India to exert a pull on foreign education providers to initiate alliance with Indian institutions. As evident from the ongoing trends, very few foreign university of international standard like Oxford, Harvard and MIT may open branch campus in India. Business in higher education is conducted worldwide with a profit motive. India is also no exception. Thus, debarring the private investors may be a significant discouraging factor.

5.7 General Trends in International Student Mobility

Cross-border mobility is a mode of globalisation and internationalisation of tertiary education (Kubler et al. 2008). Student mobility is one of the types of higher education crossing the border. Gradually more number of students are engaged in exploring innovative potentials. In the past few years, the international programmes and institutional mobility has

improved, especially towards Asia as well as the Middle East. These fresh trends of higher education only suggest an incomplete part of cross-border tertiary education, although they represent a novelty which marks the beginning of a comprehensive revolution of higher education on long-standing basis. The mobility of Indian students is not unidirectional. In reality, the liking for courses among the students going to the universities of the U.S., U.K., Australia or Canada is changing due to the impact of shifting job market in a globalised planet. The traditional keenness for PhD degrees or post doctorate is progressively yielding place to job oriented courses ranging from semi-skilled courses to the high end expertise fields like missile technology, nano technology, sports medicine, and dairy technology etc. It is evident that even the enormous economic recession of 2008 failed to restrain the rising number of migrants to the foreign universities. Thus, India has become a significant education service exporter to the first world countries. Even China receives a significant proportion of Indian students in medical science by offering cheaper service vis-à-vis the private service providers of India. Marginson (2014) thinks that three main trends now govern higher education, such as; persistent growth of educational involvement across the globe; the extent of home-grown capability in science and technology in many countries; and the rise of autonomous higher education systems. Such trends obviously act as controlling factors in student mobility, brain drain or gain across the world also.

ICEF (2014) has mentioned the present trends of international student mobility. International student mobility paths will follow international economic shifts as the Chinese knowledge plus experience will likely to become significant in the future trade and labour market. Korea's student numbers has augmented from 22,500 in 2005 to about 76,000 in 2009 where lion's share belongs to China. China used to experience outward student mobility a decade ago, has become successful in drawing international students nowadays. Maximum students preferring China belong to Asia, Mexico, Thailand, Russia, Argentina, Taiwan, Brazil and Chile. They also increasingly take part in the race for international student enrolment. The 21st century aggressive marketing of higher education services include sophisticated recruitment strategies, resembling Western strategies like scholarships, diplomacy, mutual acknowledgment of qualifications, funding in infrastructure and intelligent marketing etc. The movement of students has now attained the proportion of mass movement. The global population of internationally mobile students more than doubled from 2000. Asia is the most important and China, India, and South Korea are the leading sources

of global students and it also reflects a growing trend to intra-regional mobility i.e. a growing body of students studying outside their home country but studying within their home region.

The in-migration from prosperous to developing countries is negligible compared to out-migration from developing to highly industrialized countries. Outmigration accounts for above 30 percent of the total human capital mobility (Hanson, 2009). The BRIC group of countries has exposed a contradictory situation in worldwide student mobility. The Goldman Sachs report invented the term BRICs; encompassing Brazil, Russia, China and India. The anticipation was precise concerning GDP but about international student admission, BRIC nations demonstrated a conflicting state of affairs. The international student mobility originating from Brazil have remained lacklustre and the numeral declined rapidly for Russia. Global student mobility is a convoluted correlation of numerous push and pull factor variables. One such very noteworthy variable is development scenario at birthplace which makes migrating overseas less elegant option. Consequently, Russia and Brazil seem to be superior to China and India in this respect. Russia and Brazil enjoy a much advanced level of affluence vis-à-vis China and India based on GNP (purchasing power parity \$), and thus they are less "pushed" to studying abroad. China and India drop back a propos broad quality of life and as a result they will continue to send more students moving out of the country in their mission of better living (Choudaha, 2011).

Apart from India, the growth of Chinese students enrolling in global higher education systems is staggering. Back in 2002, India was the foremost supply region of international students totaling almost 67,000 students in the U.S. tertiary educational institutions, compared to China supplying about 63,000 students. By 2011, the Indian students have grown by 55 percent to 104,000, whereas the students from China have grown by 150 percent to a staggering 158,000 students. This is marked by declining Japanese enrolment dropping by 40 percent from 47,000 to 28,000. The loss incurred on account of diverted student mobility to the non-U.S. countries has been made up by the unprecedented and surprising growth of Chinese students in the American institutions (Choudaha, 2012). China provides high quality educational services at affordable cost. The medical courses offered by some of China's best educational Institutions pose serious competition to the popular medical colleges of south India. The OECD (2014) report has thrown light on the current trends as below. Over the past three decades, the international students enrolled outside their motherlands have grown from 0.8 million in 1975 to 4.5 million in 2012. During 2000-12, the foreign tertiary students studying worldwide more than doubled, with an annual growth rate of almost

7 percent. Globally, 82 percent of all foreign students are enrolled in the G-20 nations, and 75 percent of all foreign students study in OECD countries. Europe is the most important region, hosting 48 percent of all global students. Within the OECD region, the 21 European member countries or EU21 host the largest proportion (39 percent) of foreign students. The EU21 countries also host 98 percent of foreign students enrolled in EU countries. Obviously, 74 percent of foreign students enrolled in EU21 countries belong to another EU21 country, suggesting the impact of EU mobility policies. North America is the second most popular region for students, with 21 percent globally, followed by Asia with 18 percent. The number of international students in Oceania had almost tripled since 2000, although the region hosts less than 10 percent of all foreign students. Africa and Latin America and the Caribbean, also have growing numbers of international students. In 2012, the number of international students in OECD countries was, about three times (3.4) million the number of students belonging to OECD countries (1 million) studying abroad. Some of these changes reflect differences in countries' approaches to internationalization, ranging from marketing campaigns to a more local and university-driven approach in the United States. The OECD data proves that Australia, Austria, Luxembourg, Switzerland, New Zealand, and the UK experiencing the highest level of incoming student mobility, measured as the proportion of international students in total tertiary enrolment where, 10 percent or more of their students are international. International students consists of more than 30 percent of enrolments in advanced research programmes in Australia, Belgium, New Zealand, Luxembourg, the Netherlands, Switzerland and the U.K. In Australia, 18 percent of students in higher education belong to another country, and it is 17 percent in the UK, 16 percent in both New Zealand and Switzerland, while it is 15 percent in Austria (Dennis, 2017). In 2015, the enrolment growth in Australia was 12 percent, (650,000 international students); contributing to A\$21 billion to their economy. Almost 27 percent students in Australia now belong to China, has grown at 17 percent in 2015/16. The achievement of Canada is evident from 8 percent growth in 2015, earning C\$11.4 billion from the international students, particularly from Nigeria (up 20 percent), China (up 11 percent) and India shows very high mobility (up 28 percent). Even the African students now prefer to study in Africa or Middle East countries. The African universities in recent years have successfully established relationships as well as joint degree programmes with Japan, China, South Korea and Turkey.

According to the Open Door Report, IIE 2015, the students from the top three countries of origin, i.e. China, India, and South Korea now represent about 51 percent of the

total enrolment of international students in the United States, as the number from China and India increasing, and from South Korea declining by six percent. The Open Door Report, IIE (2016) report shows that India comprises 15.9 percent of total international students and from 2014/15 to 2015/16, there has been 24.9 percent increase in enrolment. There has been 19.7 percent increase in graduate enrolment compared to OPT 44 percent increase. But in the case of China, there has been 19.7 percent increase in graduate enrolment, but only 21.1 percent increase in OPT. In 2015/16, 165918 Indian students got enrolment. STEM subjects are the most popular suggested by' 36 percent share in engineering, and 34.9 percent in mathematics/computer science as the most popular courses and 6.3 percent in physics/life science subjects. Push and pull factors need to be mentioned. Students make decisions about where to study based on many factors, including the academic reputation of an institution or course, the flexibility of programmes in counting time abroad towards a degree, and recognition of foreign degrees, —exploding demand for higher education worldwide, higher education limitations or restrictive university admission policies at home, geographical, trade or historical links between countries, future job opportunities, cultural aspirations, and government policies to facilitate the transfer of credits between home and host institutions. Tuition fees play an important role, as do immigration policies. In recent years several OECD countries have eased their immigration related terms and conditions to encourage temporary or permanent immigration of international students. Language and cultural issues, geographical proximity and similarity of education systems are the controlling factors that students also consider when choosing the country where they study. Language and academic traditions may explain the tendency of English-speaking students to study in other countries of the British Commonwealth or in the U.S. even if they are geographically distant. Migration networks also have a role, as suggested by the concentration of Portuguese students in France, students from Turkey in Germany or students from Mexico in the United States. Choudaha (2017) has mentioned about STEM OPT Extension, which is attractive to the Indian students who are heavily enrolled in master's programmes in engineering and computer science. In 2016, 83 percent of Indian students, 43 percent of Saudi Arabian students, 78 percent of Iranian students, and also 40 percent from China are enrolled in STEM programmes.

5.7.1 Post-9/11 Era of Declining U.S. Hegemony in Higher Education?

Marklein (2011) views cost, distance, visa complication, and challenges from other accepted destinations, perceived as pessimistic influencers, threaten the capability of the U.S. to catch the attention of international students. Hansen (2007) views that since the 9/11 attacks, many capable workers including international students became more and more reluctant to bear the extended waits and insecurity involved in immigrating to the U.S., thus they chose to go to Europe, Canada and also Australia where knowledge workers face less immigration complexity. Some of the reasons responsible for the diminishing role of the U.S. are listed below:

- *Visa procedures:* The first reason is directly related to tightened visa procedures and entry conditions for international students; especially for those from the Middle East after the September 11, 2001, terrorist attacks. Students from Gulf region countries, North Africa, and some Southeast Asian countries increasingly prefer to study in Europe, the Middle East, Asia, and Oceania rather than in the United States. The heightened national security and restraining visa procedures indisputably has affected the view some potential foreign students have regarding the United States. As a corollary, the U.S. Department of State and overseas embassies have streamlined interview and visa processes, causing restricted enrolment of foreign students. The recent years have witnessed the efforts by the U.S. Government to expand its higher education market like growth of recruitment efforts out of the country, development of the infrastructure, informational availability on campuses, and monetary support to compensate admission and tuition expenses.
- *Competition:* Persistent recruitment drives by Australia, Canada, New Zealand, France, and the United Kingdom, among others, have posed stiff competition to the U.S. These countries have a mishmash of Americanized programmes in English medium plus free or subsidized tuitions to draw foreign students apart from permanent immigration after graduation for attracting foreign students. As English becomes a global lingua franca, institutions in many non-English speaking countries offer programmes, particularly in STEM, in English.

- *Cost factor:* Europe, Australia or Canada, has always been less costly than the U.S., and many international students are reaping the benefit of lesser tuition charge and lower cost of living.
- *Creative recruiting programmes:* Correspondingly, non-Western countries, for instance, Singapore, Qatar and Malaysia, apply inventive recruiting programmes to prove themselves as vital regional providers in international education on top of to using international students as sources of income revenue. Singapore for example, puts forward incentives and ancillaries for renowned universities, such as MIT and John Hopkins, to set up their campuses in that country.
- *Easier immigration:* In the last few years, has gradually made their immigration systems as a factor to encourage and retain highly skilled people. Back in 1999 Australia made it easier for suitable overseas graduates of Australian universities to adjust to permanent resident status through its point system. The qualified foreign graduates in Australia may apply after graduation for a four years Temporary Business (long-stay) visa.
- *Participating in economy:* Since April 2006, the suitable foreign students can work off-campus in Canada to balance tuition cost and contribute to the economy of Canada.

European examples: In 2006, France lessened its immigration hurdles to encourage the inflow and post-graduation stay rate of its international students. The United Kingdom is in prime position in Europe in attracting skilled foreign students. Students belonging to the European Economic Area (EEA) and Switzerland are permitted to live, study, work, and gain established nationality with hardly any problems anywhere in the U.K. Two schemes like the Science and Engineering Graduates Scheme (SEGS) and the Fresh Talent: Working in Scotland Scheme (FTWISS) — were initiated in 2004-2005 to keep non-EEA international students in the United Kingdom even after graduation. On the contrary, the United States has no policy of direct route to permanent immigration for international students except they get supported by a U.S. employer or other half who is a U.S. citizen. Also, the optional practical training (OPT) system in the U.S. is presently set to be not more than 12 months in spite of the kind of work or stage of degree acquired. Moreover, with few exemptions, foreign students and their spouses in the U.S. are not permitted to work off-campus (foreign students on F-1 visas may be permitted to work off-campus while they study only if they can prove

financial hardship). She (2011:42) thinks that the U.S. now follows the international student policy of low level of openness towards their entry accompanied by strict control on their settlement in the U.S. The Grant Thornton International (2013) report states the current downside of the U.S. higher education. The higher education sector in the United States is at a crossroads and also in the crosshairs of watchdogs and critics unlike in the past. Issues comprising affordability, mounting student (and campus) debt, and decreasing state and federal support are raising very material questions regarding the viability of the present higher education business model. Even colleges and universities having the durable brands and deepest pockets are not invulnerable to the alteration that is fashionable in the higher education sector. Simultaneously, a digital revolution in education is fundamentally rewriting the mode and approachability of higher education content. Enormous open online courses, or MOOCs, along with other leveraged learning know-how, may very well be harbingers of transformation.

The 11th annual Times Higher Education world university ranking (2014-15) justifies the steady erosion of United States and United Kingdom leadership of global higher education associated with the rise of institutions outside the North Atlantic axis. Japan's universities are now losing ground to the rising Asian countries, including China, Hong Kong and South Korea. The U.S. universities continue to dominate the world rankings, occupying seven of the top 10 places plus 15 of the top 20, and on the contrary the three American universities have dropped out of the top 200 and 60 percent of its universities have lost ground in 2014-15. Many Western universities, starved of vital public funding, are diminishing. Where the power shift takes place from West to East, these new world university rankings vindicate this fact. Jobbins (2014) finds that the key East Asian countries have become powerhouses in international higher education and research, whereas traditional leaders including the U.S., the UK, and Canada, risk losing ground in the global knowledge economy.

The H1B Visa policy of the U.S. as designed by President Trump has been causing heated debates of late. The visa restrictions however, were withdrawn on 9th January 2018. The FE Online (2018) reports suggest great relief for the Indian techies after the US announcement regarding withdrawal of proposal for changes to the existing visa laws for highly skilled workers. It was part of President Donald Trump's campaign of 'Buy American Hire American', and as a result, an internal memo disseminated by the Department of Homeland Security set out to stop the stipulation of granting extension to H-1B visa holders

whose applications for permanent residence status (Green Card) had been received. On 9 January, 2018 the U.S. Citizenship and Immigration Services (USCIS) declared about reversal of policy change that could deport several Indian tech workers. On April 18, 2017 President Trump signed an executive order which called for enforcement of all laws related to entry into the U.S. for employment. It also asked the Departments of Labor, Justice, Homeland Security as well as the State to recommend alterations in the H-1B temporary worker visa programme for protecting the interests of American employees by making sure only the best paid and most-skilled applicants may receive visas. Earlier, the government was accepting H-1B visa applications for 2018 with no modifications to the program, but the Department of Homeland Security of the U.S. announced in April 2017 that it was adopting a targeted strategy to avoid deception and abuse. So, the proposal had sought to restrict extension of H1B visas by changing the interpretation of section 104(c) of AC-21, suggesting that workers having their permanent residency applications pending would be leaving the U.S. until their Green Card is successfully processed.

The Trump administration's decided in the teeth of some stiff criticism of the proposed law by the business and technology sectors as well as many lawmakers. Under the present regime in the U.S., a worker holding an H-1B visa can stay in the U.S. for up to six years. It is primarily for three years but may be extended for another three years. A person can get an indefinite extension if the person has a pending permanent residency application of the H-1B visa until the applicant's Green Card processing is finished.

The probable impact on the Indian techies would have been catastrophic. The proposal for more rigorous norms for the H1B visas could have led to the likely exile of 5,00,000 to 7,50,000 Indians from the U.S. While previous rules made it trouble-free for the skilled workers to continue working in the U.S. provided their Green Card applications were pending. Many such skilled workers have been staying in the U.S. for over a decade. Those workers could have to come back to India till their applications were processed successfully. Such a move would have disrupted the many such families and negatively hit their livelihoods. As per estimate, the number of H1B workers in the U.S. awaiting Green Cards could be over 1 million.

The impact on IT companies would have been no less severe. The top Indian firms rely by and large on H1B visas for their workforce requirements in the U.S. and restrictions of the kind proposed would have hit them very badly. These firms regularly provide outsourcing services to the U.S. firms and employ Indian workers. The changes proposed

fresh restrictions to put off abuse and exploitation of H-1B visas. It called for a tightening of the explanation of visa-dependent firms and demanded the imposition of fresh restrictions regarding minimum salary and movement of talent. As these norms would have own set of connotations, the Bill also placed the responsibility on clients to officially state that the visa holder is not displacing an on hand worker for a term of 5-6 years.

5.7.2 How Many International Students Study in the Major Host Countries?

Vincent-Lancrin, (2009) observes that the intercontinental student mobility comprises the major form of cross-border tertiary education. OECD countries host around 85 percent of the foreign students, that is to say 2.5 million students; nonetheless, in 2007, two-thirds or 67 percent of the overseas students situated in the OECD region belonged to a non-OECD member country. These two proportions have continued to be steady during the past decade. In 2009, about 3.7 million international students were enrolled, thus enhancing the figure above 6 percent compared to the preceding year. In terms of absolute number, the major numbers of global students in OECD nations belonged to China, India and Korea. OECD (2011) study has thrown light on the destination countries of the world. Six countries, namely, Australia, Canada, France, Germany, the U.K. and the United States hosted over half of the international student population who studied overseas in 2009. The share of United States observed a major fall as a favoured destination of international students from 2000 to 2009, falling from 23 percent of the worldwide market share to 18 percent. While, the shares of overseas students choosing Australia and New Zealand jumped by almost 2 percent, similar to the Russian Federation, likely to become a very important future player on the global education bazaar. The share of students studying in foreign countries is getting bigger in the modern globalised world, characterized by increasing use of English as a global medium of instruction (Choudaha, 2012).

5.7.3 Enrolment of International Students in Countries other than United States

Nationally, the share of global students in the tertiary education system of the U.K., Australia and Canada was relatively high few years ago, comprising 15 percent, 21 percent, and 8 percent correspondingly, contrary to just 3 percent in the U.S. Even at the institutional stage the United States is much less reliant on global flow of students to satisfy enrolment objectives, and also has a higher capability to attract further flow of overseas students (AEI, 2011). In the U.K. the ratio of international students to overall enrolment at few institutions like the University of Buckingham and Cranfield University was above 50 percent as per Choudaha's (ibid) calculation using HESA data. In Australia, institutions such as the

University of Ballarat and Central Queensland University have students from out of the country comprising over 60 percent of total enrolment. The high percentage of international student bodies in Australia and the U.K. is not only an upshot of insistent enrolment practices, that includes employing of agents, but is also linked to freethinking transformations to immigration strategies in the 2000s. Nevertheless, many of these immigration procedures are now being amended or on its head, causing more difficult visa system. According to OECD Education at a Glance 2011, the U.K., Spain, Italy and France emerged as four most important destination countries in both 1999/00 as well as 2009/10, whereas Mexico is replaced by China as the 5th most significant country as higher education service provider.

The share of international students outside Europe continent has witnessed a jump from 38 percent to 47 percent. The share of STEM students abroad has also increased about 120 percent (or 48,000) with a total figure of 3.7 million students. The figure 3.3. predicts the future possibility of increasing student mobility in the year 2020. Mukherjee et al. (2012) discover in their research that the most important host countries are situated in North America as well as Western Europe, which draw the biggest number of wide-reaching overseas students comprising 60.5 percent of all globally mobile students in 2009. Yet, East Asia in addition to the Pacific have been doing well in attracting more and more students over the years, because of their increasing share growing from 11.2 percent to 20.4 percent from 2000 to 2009. Furthermore, the declining role of Central and Western European region indicates diversifying international student market, because of the boost in the number of student destination countries since 2000. The more recent OECD study as mentioned by Cluster (2013) has mentioned that Australia, Germany, France, the U.S., Canada and the U.K. continued to dominate study destinations during 2010-11, receiving a combined 50 percent of all foreign students worldwide. Asia unsurprisingly was the largest source region, representing 53 percent of all foreign students enrolled. Since 2000, the ascendancy of non-traditional study destinations, the slowdown in demand for the US, and the rise in importance of employability for foreign graduates became trends of student mobility. In many countries there is also a growing demand for highly qualified immigrant workers. Prima facie, it is obvious after the global economic crisis there is shrinking support for scholarships and grants and trimmed personal budgets affecting mobility. However, limited labour-market opportunities in the countries of origin may increase the attractiveness of higher education abroad as a way to achieve a competitive edge, and thus boost student mobility. In addition, there is a growing demand for highly qualified immigrant workers in many countries. All of the reporting OECD countries, except Germany, had a larger proportion of international

students enrolled in advanced research programmes than in any other tertiary-level course in the period. A quarter of all international students in Switzerland, meanwhile, were enrolled in advanced research programmes, is no mean achievement. The internationalisation of labour markets for highly skilled labour has also rendered the students an incentive to achieve international experience as part of their higher education goal. Vocational education provides international students with employable skill sets, too. On an average, international students amounted to 4 percent of all enrolments on shorter, vocationally oriented courses.

The non-traditional study destinations such as Japan, Spain and Russia, attract foreign students. There are also growing number of students studying in Oceania, where students have tripled since 2000, due to closer geopolitical ties between Asia-Pacific countries. Latin America, Asia and the Caribbean have also upped their numbers, reflecting the internationalisation of higher education in an increasing number of countries in the regions. The language spoken and medium of instruction at times decides in which country students prefer to study. Countries where language of instruction, such as English, French, German, Russian and Spanish are used are consequently the leading destinations of overseas students, both in total and relative terms. Japan is a noteworthy exemption: in spite of a medium of instruction that is not prevalent, it enrolls bulky number of international students, of who above 90 percent belong to Asia. Mukherjee et al, (2012) puts forward that the market for overseas students is extremely concentrated, with the uppermost five destination countries getting above 50 percent of all international students. The OECD (2011), Education at Glance 2011 further mentions that over nine-year duration, the international students choosing the United States as their destination country has plunged vis-a-vis Australia, New Zealand and Russian Federation, emerging as the new players in the global education market. Some of these transformations mirror the diverse emphases the internationalization policies of different countries, ranging from down to business marketing strategies in the Asia-Pacific countries to a more local and university-driven strategy in the conventionally leading countries such as the United States. The education policies have a direct and indirect influence on student mobility and skilled migration as it has been discussed in the subsequent paragraphs.

Australia: In 2016, there were about 650,000 international students in Australia. Higher education is the Australia's third largest export, and much of the growth is attributed to increased enrolment of Chinese students, who accounts for 27 per cent of the Australian higher education market (Dennis, *ibid* 2017). In 2010, Australia had taken pro-active policy

for addressing abuses of immigration inducements within its student-visa strategy by stricter application of visa necessities for non-degree students. Consequently, the Australian higher education sector had noteworthy declines in global enrolment (Govt. of Australia, 2011a). Identifying the dependence of the Australian tertiary education sector on inter-continental students, the Australian government of late has loosened up its student visa provisions (Gov. of Australia, 2011b). Australia's international enrolment grew by 10.9 percent compared to 6.5 percent in past ten years to reach 554,179 for 2016. Australia's international student enrolment has recorded a high in 2016 to reach a total of 554,179 for 2016. More 43 percent were enrolled in Australian higher education, which recorded an overall growth of 13 percent for 2016. The official policy objectives state that Australia welcomes international students as they invigorate their high quality education system, economy, society, culture and global relationships. The contribution of international students is considered as critical since their economy continues to evolve to generate new knowledge oriented industries and companies (ICEF 2017a).

U.K.: A Point Based System (PBS) was introduced by the Home Office of the UK Border Agency (UKBA) in 2009 and integrated a succession of added necessities into the student visa plan to alleviate the mistreatment of student visa for immigration uses. The applicants are now required to give evidence of English skill and confirmation of financial support from monetary institutions confirmed by the UKBA (Gov. of U.K., 2011). The UKBA declared that it would further solidify its language prerequisites and wrap up the post-study work system from April 2012 onwards. According to the latest report by The Higher Education Funding Council for England (HEFCE 2014) the higher education institutions in England have experienced their first drop in foreign student enrolment in nearly 30 years. The decline is principally attributed to weakening in two primary areas such as:

- 1) The Indian and Pakistani students enrolling in postgraduate masters courses in STEM related fields (halved since 2010)
- 2) European Union (EU) undergraduate students (who currently have to pay the similar increased fees as UK students)

The declining mobility of international students is based on factors like cost of higher education, employment prospective and immigration prospects.

Canada: The mounting demand for Canada for global students is proved by the growth observed among Indian students. The Indian enrolment has increased leaving behind the Chinese visa holders as the major group of international scholars going to Canada during that period. If this development continues, Canada is expected to see continuous boost in international student enrolment in 2012 (Gov. of Canada, 2011 and Choudaha et al, 2012). ICEF Monitor (2016) has mentioned that there is a broader context for this observation and one that suggests that Canada has some significant competitiveness issues to address in terms of visa processing times, admissions processing, the availability and strength of articulated pathways for international students to move among Canadian institutions, and post-study employment supports.

The number of overseas students enrolled in Canadian higher education institutions increased by 8 per cent in 2015 and they contributed C\$11.4 billion (£7 billion) to Canada's economy. Enrolment from China (+11 per cent) and India (+28 per cent) were major contributors to growth. Nigerian students' enrolment grew by 20 per cent and South Korea by 5 per cent. Recently 12 Canadian institutions signed 13 memoranda of understanding with India's National Skill Development Corporation (Dennis, *ibid* 2017).

France: France observes worldwide student recruitment chiefly as a public diplomacy means (Nuffic, 2012). The French Ministry of Foreign and European Affairs (MAEE) endeavours to make possible highest global mobility for students, researchers as well as entrepreneurs. As the controller of French existence overseas, the MAEE proposes these players predominantly helpful know-how and on-the-ground information. The existence foreign researcher in France is mainly encouraged to enhance the competitiveness of French research internationally. The EIFFEL excellence scholarship programme was initiated in 1999. The —Quai d'Orsay/Enterprises programme was shaped in 2006 for coordinating scholarship programmes jointly funded by companies as well as the MAEE. The programme assists in developing the competitiveness of France globally by satisfying four core issues:

- Prop up the action of companies in France in support of young overseas elites;
- Support the worldwide aims of French institutions of higher learning;
- Promote the most excellent foreign students in their longing for sharing knowledge and skill at the topmost echelon.
- Augment French ways of action in a period of globalisation (Govt. of France, 2010).

In 2016, over 4200 students from India pursued higher education in France. The Embassy of France and Campus France India Network has an ambitious plan to increase the Indian students enrolment to 10,000 (French Embassy, 2017).

Germany: According to Nuffic (2012) Germany and Canada look for international scholars to offset their waning and ageing populace. Over the last decade, as Belyavina (2012) argued; Germany has espoused the Bologna Process across the European Higher Education Area proposed to assist student mobility and also build more attuned tertiary education arrangements across Europe. An important upshot of the Bologna development is that Germany's higher education institutes now include bachelor's, master's, plus doctoral programmes, which offer students worldwide the flexibility to go into the higher education structure at a stage that best suits them. A good number international student population is at the graduate level, often receiving education in English-medium programmes. At the institutional plane, the German universities have paid attention on intensifying research capability through partnership with their international equivalents. The University of Giessen in Germany works with more than 70 universities internationally and endorses student mobility at every part of academic levels. The QS Survey (2014) has observed Germany as the most popular study destination.

China: China has been a popular international student destination at present. The enrolment in China of South Korean students has more than doubled in the past decade. The number of Indonesians studying in China has also climbed by 10 per cent since 2010 on annual basis. The number of Indians and Pakistanis studying medical degrees in China has tripled over the past decade (Dennis, 2017). The Chinese government aspires to reach the target of 500,000 international student enrolment in Chinese higher educational institutes by 2020, double the number it currently hosts and higher than the quantity of students it exports out of the country (Nuffic, 2012). As Woodfield (2012)⁹ pointed out that the lion's share of industrialised countries have quick-fix student exchange plans; while elsewhere the bulk of mobility is intended for full degree curriculum. Nonetheless, the growth of transnational tertiary education now intimidates this mould in a bigger way and thus, intercontinental mobility will become increasingly unstable since new service provider countries will surface like China. The ICEF Monitor (2017b) has mentioned about foreign enrolment in Germany

⁹ See Steve Woodfield in —What is the future of international student mobility? by EUPRIONIC on 11th June, 2012, Website accessed: <http://delacourcommunications.com/what-is-the-future-of-international-student-mobility/Outward-boundstudentswinBritishchampion>

which reached 340,305 students in 2016. There was an increase of nearly 6 percent over the year before, and marks the long-term growth trend for Germany as an important study destination in the world. Germany holds the position of the sixth-leading global study destination (after the US, UK, Australia, Canada, and China). Where international enrolment in the UK has been flat since 2012, the international student numbers in Germany increased by roughly 36 percent between 2012 and 2016.

Japan: Over 100,000 international students presently study at different levels of educational institutions in Japan. The number has been growing rapidly ever since the 1980s, with over 60 percent of the student mobility is from China¹⁰. Japan actively promotes the reception of overseas human resources in for improving Japan's global competitiveness besides promoting the globalisation of industries and corporations. As earlier international student policy was aimed to meet up the requirements of students after their arrival in Japan and on offering sustenance to assist them to go back home, whereas the new policy is distinguishing because it is a orderly policy to promote the recognition of global students into the mainstream Japanese society, that includes policies to aid them in getting employment or pursuing other choices in Japan after completion of their studies¹¹. OECD Education at a glance 2015 shows that OECD countries attract 73 percent of all students enrolled overseas in countries reporting to the OECD or the UNESCO Institute for Statistics. Within the OECD, EU21 countries host the largest proportion, i.e. 35 percent of international students. Some 71 percent of international students enrolled in EU21 countries belong to another EU21 country that may partly be an effect of EU mobility policies. North America is also attractive for international students, as the United States and Canada both account for 23 percent of the total. The profile of international students in this region is comparatively more diverse than in the European Union. Among the countries sharing data on international students, Australia, France, Canada, Japan, Germany, the United Kingdom and the United States enrolled more than one in two international students in 2013. In absolute terms, the U.S. hosted the largest number of all international students or 19 percent of the total, followed by the United Kingdom, Australia and France, Germany, Canada and Japan. Besides the eight major destination countries, significant numbers of foreign students were enrolled in Austria, China, Italy, the Netherlands and Saudi Arabia in 2013.

¹⁰ See <http://www.japan-guide.com/e/e2232.html>

¹¹ See http://www.tsk.or.jp/ryuugaku-en/1_inter.html

5.7.4 Enrolment of International Students in United States

Conventionally the Indian students' figure in 2010/11 in the U.S. remained rather even in comparison to the preceding year. India had been the foremost country of origin for global students in the United States from 2001/02 through 2008/09. The most popular five fields of speciality of international students are biological plus biomedical sciences, engineering, health sciences, physical sciences as well as agriculture. About 75 percent of global scholars have specialisation in STEM fields. The United States has globally produced most well skilled and educated labour force for generations, nevertheless aspects like increasing worldwide competition, demographic alterations in the college-going people, plus budget limitations have converged to restrain the historical primacy of U.S. graduate education, as opined by William Russel, Commission Chair and Dean of the Graduate School at Princeton University. According to the CGS International Graduate Admissions Survey, Phase II, 2010 to 2012, and Phase I, 2013.

Internationally, the American share of the international student market has fallen since 2000, moreover competition overseas is growing. Europe and Asia are busy in investing in graduate education as indispensable mechanism of fiscal growth, and have begun to outshine the United States in production of doctoral scholars, principally in science and engineering. Prospective international graduate scholars have new preference these days as to where to pursue their graduate lessons and their occupations (ETS & CGS, 2010: 1-2). More than one-third of all international students in the U.S. in 2015-2016 studied engineering or math and computer science, as the report shows. In all, 216,932 students studied and were trained in engineering, suggesting a 10.3 percent increase from the previous year, and an overwhelming number of 141,651 students pursued math and computer science fields, which is a 25.4 percent year-over-year increase. Dennis (2017) has mentioned about China being the largest education system as 33 million students are enrolled there. China has been the third largest study destination after US and UK. The enrolment from South Korea has more than doubled in last decade and from Indonesia, the number has increased by 10 percent since 2010. In 2013, China announced the —One Belt, One Road initiative for building stronger relationship with countries ranging from south east China, through the Indian Ocean and the Red Sea before terminating in East Africa and Europe. The Chinese entrepreneurs by 2015 made massive investments in 49 countries along the route. As a consequence, China has been able to develop strong ties with these countries. By 2016, China has become the leading host country for international branch campuses with 249 branches and 180,000 international

students. China has launched World Class 2.0 in 2015 with a vision to strengthen the research activities in China's nine top universities. The mobility model of Indian students is not unidirectional. As a matter of fact the liking among students for courses in the institution of higher learning of the U.S., U.K., Australia or Canada is going through transformations because of the effect of varying job market in a globalised planet. Lately, a significant share of the Indian students in Australia opt for typical courses like cookery, hospitality, sports management; which offers scope of employment for the Indian students in Australian job market. The infamous 'curry bashing' episodes have cast a pessimistic effect on the Indian student mobility to Australia. The Indian government policy to ban student mobility to Australian institutions was temporary but it is a latent enthusing feature for other competing countries like the U.S., U.K. etc. striving to attract Indian students. The usual keenness for PhD or post doctorate degrees is increasingly yielding place to vocational courses ranging from low skilled disciplines to high-end knowledge oriented disciplines such as missile technology, nano technology and so on. It is conspicuous that even the economic recession has been ineffective to restrain the escalating number of students in foreign universities, possibly due to the fact that India is comparatively less concerned by recession in the vein of other countries.

Consequently India has become a vital education service provider to the developed countries' market (Chaudhuri, 2012). The international student enrolment increased by 7 percent in 2015/16, but it was down from 10 percent in 2014/15. In 2001, 28 percent of all international scholars got enrolment in U.S. colleges and universities, while in 2014 the figure dwindles to 22 percent. In the case of China, the popularity of the U.S. students is also decreasing. Increasing cost of education is a major factor. Since 2008, tuition and other fees at two and half year institutions have witnessed an increase of 28 percent.

According to CGS's Graduate Enrolment and Degrees: 2001 to 2011 report, international students comprise about 15 percent of all students at U.S. graduate schools, but three-quarters (76 percent) of all international students at U.S. graduate schools are enrolled in natural sciences, engineering, and business fields. Natural sciences include biological and agricultural sciences, health sciences, mathematics and computer sciences, and physical and earth sciences. Social sciences include public administration and services and social and behavioural sciences. Graduate applications from potential students from five countries covered by the survey declined between 2012 and 2013, whereas applications from the

remaining countries, such as, Brazil and India, witnessed an increase by 24 percent and 20 percent respectively.

Klimaviciute (2017) has an overview of STEM students in the United States may be mentioned here. There were above 1 million international students in the U.S. in the 2015-16 school year — a record and a 7 percent increase over the preceding year. This figure includes approximately 150,000 participating in Optional Practical Training (OPT) following their studies. Of international students in the United States, 41.6 percent pursued STEM fields, in comparison to 35 percent of all students at the undergraduate level and 22 percent at graduate level. International students are more common in graduate STEM programmes than undergraduate: one-third (10,000) of all STEM doctorates awarded in 2013 were awarded to students from abroad, compared to 5 percent (roughly 16,000) of all STEM undergraduate degrees. In 2014, almost half of all foreign undergraduate STEM students belonged to China, Saudi Arabia, and South Korea. China and India comprised more than two-thirds of international graduate student enrolment in the U.S., with Iran a distant third.

Regarding the decision to stay or not depend on many factors and the choice is not always obvious. 48 percent of international doctoral STEM scholars intended to remain after graduation, 12 percent wished to leave, and roughly 40 percent were undecided in 2015. This sizeable undecided share will raise a question about whether the U.S. will remain as popular a work destination in the future. Career opportunities play a key role in these decisions: there is an 87 percent likelihood that those who study in the United States due to future job prospects will stay back after graduation. Students find the United States attractive for work in the private sector or for start-ups —77 percent wished to work for a company or launch own business wished to stay, in comparison to 68 percent who considered careers in academia, government, or non-governmental organizations (NGOs). International student perceptions of the United States are becoming more negative, which could boost their chances of leaving. Furthermore, the U.S. share of international student enrolment has declined from 28 percent in 2001 to 22 percent in 2014.

Applications from Indian students to American graduate schools increased while from China slowed down in 2013, as per the new report from the Council of Graduate Schools (CGS). There was 32 percent increase in applications from India, accounting for 18 percent of all international graduate students at U.S. institutions. This increase is more consistent with the growth pattern in international graduate applications observed between 2006 and 2012, after a post-9/11 decrease (CGS Report 2014). As per CGS Report 2016, out of over 92,500

first-time international graduate students, approximately eight out of ten (77 percent) belonged to Asia, including Chinese nationals (36 percent) as well as Indian nationals (27 percent). The share of Indian students has dropped by four percentage points compared to Fall 2015 figures. The representation of Asian international students is high in master's and certificate programmes, accounting for 80 percent of all first-time students with India claiming 32 percent of the shares. Regarding application counts and offers of admission, the Indian graduate students represent 12 percent. A range of factors control global academic mobility, such as limited home country tertiary education capacity, human capital demands, national scholarships, and rising nationalism (Baer, 2016). Politics and economics of both U.S. and the countries of origin for overseas graduate students, as well as U.S. immigration and visa policies all influence the competitiveness of U.S. universities in the world graduate education market (CGS, 2016).

Bhandari (2017) finds Scholarship programmes funded by governments and private foundations such as the Ford Foundation and The Mastercard Foundation often aim to provide international fellowships to marginalised individuals from developing countries. Research has shown that these types of targeted efforts have a significant impact in increasing access to international education and can have a multiplier effect on communities and countries.

5.7.5 How Many Indian Students Study STEM in the U.S.?

The U.S. Census Bureau presents data which establishes that amongst the students of science or engineering; more than 50 percent are Asians, 5 percent belonged to Africa, 3 percent from Northern America.

The Institute of International Education conducted surveys in 2011-12 published in the Open Door Report 2012, which revealed several factors driving growth in enrolments in many U.S. campuses. The major reasons for the reported increases appear to be mostly associated with sustained active recruitment efforts as mentioned by 68 percent of responding institutions), the increasing standing and visibility of U.S. campuses out of the country (53 percent), and a bigger number of links with institutions located in other countries (30 percent). The campuses reporting boost also mentioned alterations in courses offered, an augmented number of supported students, and improved communications with students, parents as well as schools in key countries as various reasons for their greater than before intercontinental student numbers. Above two-thirds of all participatory institutions (69 percent or 388) have undertaken unique efforts to guarantee that the figures of global students

on their campuses do not fall. These efforts included addition of fresh employees or allotting added staff time to international recruitment (as cited by 61 percent), subsequently other responses include new worldwide programmes of partnerships (as cited by 52 percent), fresh financial support for international recruitment tours (41 percent), and also appointing third-party recruiters/agents (31 percent). Institutions devoting more capital for international student enrolment trips declare their main interest in Asia, with China undoubtedly the most well-liked recruitment destination country. Institutions also reported improved enrolment in Southeast Asia, the Middle East, followed by countries e.g. Brazil, Vietnam, India, Korea, Indonesia and Canada. The institutions restrained from taking particular steps mostly cited a deficiency of funding or resource, or mentioned their international student recruitment as steady and increasing; hence they continued their existing recruitment policies. Responding institutions were also asked about some important issues that may have influenced them in the earlier period. Various respondents reported challenges about China regarding combining the upward number of students from China on their campuses and also in their society, and to making sure English aptitude levels. Institutions are adding up more ESL classes, raising their point of student sustenance services, and supporting Chinese students with social, academic and cultural matters to address these challenges.

The greater part of institutions, which mentioned closer contact with Brazil during 2011-12 point toward their new recruitment efforts in Brazil, hosted added students belonging to Brazil, engaged in partnership actions with institutions from Brazil, and carried out planning trips to Brazil. Various institutions exclusively reported taking part as host institutions in the major new Scientific Mobility Program of the government of Brazil. Regarding support to students who were affected by the Arab Spring, many institutions indicated that they provided direct monetary help, for example scholarships, waived tuition fees or concession, short-range loans, provided free or reduced housing plus meal tickets, offered personal and group counselling, or helped students with applying for financial hardship work sanction through the U.S. Citizenship and Immigration Services.

The U.S., the U.K., Canada and Australia have been the recipients of extensive immigration of doctors during the past half century (Mejia et al, 1976; Martineau, 2004). Medical training vacancies in these industrialized countries, plus occasions for medical employment, have proved an exciting draw for doctors from several nations. This medical migration, frequently termed as —brain drain,|| has attracted many observations by the Council on Graduate Medical Education (COGME) in the United States, which expressed unease

concerning grave dependence on foreign doctors (Council on Graduate Medical Education, 1996). There is rising concern worldwide regarding the large dissimilarity among the nations in the availability of doctors and the pessimistic impact of the shortage of doctors on health equity, health disparity, and the battle at odds with HIV infection and AIDS notwithstanding the significance attached to remittances sent by migrant physicians back home countries and also to clinical and educational contacts they begin as proof of a —brain gain (Mullan, 2005; Waldman, 2004). The majority in the fields of science and technology and mathematics are found to stay back in the U.S. This finding is substantiated by Gaulé (2010), who finds very low return rates of overseas chemistry faculty in the United States. The research suggests that only nine percent of foreign born teachers holding no less than one faculty status in the U.S. return in the long run throughout their professional career, signifying very high propensity of foreign PhD holders to stay back in the U.S.

5.7.6 Post crisis mobility and migration

According to Massey (2012) though migration of temporary employees fell following the financial downturn, it improved between 2009 and 2010, as the entries of temporary workers increased from 1.7 to 2.8 million. In contradiction of the stability regarding flows of legal permanent settlers since 2008, guest worker immigration has increased significantly. Presently, permanent immigration is now stable at roughly a million entries per annum. A correlated tendency of return migration has also been seen in the United States – struggling to survive the recessionary effects still now. Well trained Brazilian, Chinese and Indian immigrants plus members belonging to the second generation have increased tendency of returning to their motherlands. As revealed from Choudaha's (2013) study the four year enrolment development of most important destinations point towards a sluggishness or decline, except for Canada. He explains the future enrolment movement likely to happen in 2013.

The post-recession situation hit the Indian students' mobility very badly and revealed two main sections of students; such as *immigration-driven* and *career-driven*. Each destination country possesses a mix up of these two sections. It ranged from mainstream *career-oriented* Indian students moving to the U.S. at master's degree level, to the preponderance of *immigration-driven* students pursuing studies in Australia at vocational and technical colleges. Because of recession, the U.S. has lost its magnetism to some extent as a result of a smaller accessibility to monetary aid from universities accompanied by worse scenario of finding jobs after attaining degrees. During this time one-year master's

programmes in the U.K. became quite eye-catching for Indian students. So they were prepared to fund shorter length master's programs and a higher prospective for immigration in comparison to the U.S. And during this period, Australia enjoyed peak enrolment of Indian students in 2009, with a big wave of Indians exploiting educational opportunity as a conduit for immigration through vocational programme. This great wave of Indian students with intent of immigration also exposed quite a few cases of visa abuses. Such incidents prompted both British and Australian governments to stiffen set of laws. Consequently, the enrolment of Indian students in the U.K. and Australia dropped. Nevertheless, Canada became a successful recipient as a consequence of its responsive policies towards immigration and attracted a greater number of Indian students with immigration purposes. Choudaha further anticipates slight recovery in 2013; for the U.S. as a result of demand side aspect of bigger group of students eager and capable to pay for their education and simultaneously growing confidence about the U.S. economy causing increase in fall 2013 enrolment. The U.K. is facing high pessimistic observation among the prospective Indian students and is not likely to start recuperating until 2014. All together, Canada could confront some challenges resembling what Australia had to face few years back. In 2013, thus, Australia will start getting better from its bottom chiefly caused by unenthusiastic observation in the U.K. and turnaround of some immigration plan including new post study work visa arrangements. USCIS defines Optional Practical Training (OPT) as short-term employment which is directly linked to most important areas of study of international students enrolled in the U.S. on F-1 visa. It is a helpful experiential occasion for 12 months at each education stage such as bachelor's, master's and doctoral. From April 2008, USCIS adopted a policy by allowing students studying in STEM to get added 17 months of OPT. This helped the U.S. to become more attractive for international students looking for gaining some work experience and also more essentially it proved to be a talent pull and retention tool also. Employers also can have a working relationship for longer duration before deciding on H-1 visa support. Since the OPT extension is relevant to STEM related subjects, it influenced a few countries over others. For instance, over 70 percent of Indian students are in STEM related disciplines like Engineering, Math, Computer Science or Physical/Life Sciences whereas; almost half of all Nepalese and Turkish students are registered in STEM related subjects. This is one illustrative aspect for soaring growth is OPT enrolment for Indian, Nepalese and Turkish students. Recent impetus regarding the immigration reform and also allocation of green card

to STEM graduates has potential to make the U.S. even more nice-looking for international students and presents logical corridors for preserving talented human capital¹². STEM OPT Extension is especially appealing to Indian students who are concentrated in master's programs in engineering and computer science. Data from SEVP indicates that in 2016, 83 percent of Indian students, 43 percent of Saudi Arabian students, 78 percent of Iranian students, and 40 percent of Chinese students are enrolled in STEM programs.

Choudaha (2017) finds some of the trends related to OPT during the eight years between 2007/08 and 2015/16. The academic year 2007/08 is selected to compare the enrollment trends prior to the approval of 17-month STEM Extension.

- In 2015/16, 90,732 more international students opted for OPT as compared to 2007/08
- In the eight years, the growth of students on OPT was higher than the growth in total enrolment
- Two third international scholars on OPT belong to China or India (2015/16)
- One out of every sixth Chinese student in the U.S. is on OPT (2015/16)
- One out of every fourth Chinese student in is on OPT (2015/16)

OPT provides a critical experiential opportunity to complement the academic curriculum with practical skills. OPT is recognized as one of the main differentiators in an increasingly competitive world of drawing international students from around the world. International students have contributed US\$ 32.8 billion to the U.S. economy in 2015-16. She (2011) states that the new policy requirements about post-graduate work and status adjustments, for example, the H-1B higher degree exemption and also the extension of the OPT program period, were not set off as down to business measures to draw international students, but somewhat an added offer besides the hassle-free visa policy with the aim of re-establishing the U.S. reputation and portraying a welcoming image to global students. The U.S. mostly relied on success from preceding decades to engage the international students. Its capacity in attracting the most brilliant and retaining the most wanted has remained for a couple of reasons, like the extraordinary learning sources, employment of highly capable graduates, and the soaring demand for accomplished labour in the knowledge industries.

¹²How 17-month OPT extension influenced international student enrollment trends? Posted on 2nd Feb 2013 by Rahul Choudaha on www.DrEducation.com, also see www.uscis.gov/portal/site/uscis/menuitem

Nevertheless, the knee-jerk practice led the U.S. to deal with exceptional challenges. Among all the matters being discussed on the U.S. supremacy in the international talent war, immigration restructuring remains essential to whether the U.S. can maintain its gain in attracting and retaining overseas talent.

5.7.7 Future projections

The factors possibly to influence student enrolment in the United States in near future are:

- Comprehensive capacity in home countries' tertiary education sector such as China and India.
- Domestic shifts, specifically political, financial, social as well as educational within key sending countries.
- International education services accompanied by substitute education delivery.
- Larger enrolment drive by other nations.
- The H1B visa policy followed by the United States.

Thus, the fresh inclination about international mobility is non-linear as well as non-traditional. Thus, there has been a transformation from the earlier form of movement of human capital between two countries towards a pioneering model of non-linear mobility across countries derived from educational and professional projections. Several studies over the past years suggest a compound yearly growth of international students of 1.07 percent from 2007 to 2025. The growth experienced in the 2000s was exceptional and bound to decelerate, but would be in proportion to the earlier decades over the years. The second scenario (linear) signifies a mishmash of the two disparate growth rates of the 1990s decade and 2000s. The third set-up discussed about the complete past development while giving more weight to the most recent time; finally, the third situation matches with a steady compound yearly growth rate over the whole phase.

Choudaha et al (2012) in a report titled 'Trends in International Student Mobility' predicts the rise of four emerging countries in the coming years. The report argues that the U.S. institutions ought to augment their near-term recruitment in the four promising markets as mentioned by order of importance:

1. **Saudi Arabia:** With over 23,000 students presently studying in U.S. institutions, Saudi Arabia will continue to be a vital market, owing to the extension of the *King Abdullah Scholarship Program*. U.S. institutions offering 'Intensive English' Programmes dexterously

connect with government agencies comprise the maximum capability to employ from this prosperous pool of entirely supported students.

2. **Brazil:** As a result of the *Scientific Mobility* scholarship programme, the U.S. institutions may receive a strong flow of almost 50,000 students from Brazil studying in short-term programs in next four years. Institutions successfully differentiating themselves from contestants can make the most of this market prospects.

3. **Vietnam:** Soaring recruitment potentials may be accredited to Vietnam's upwardly mobile middle class segment and their strong inclination for international degrees. Thus the Vietnamese students comprise the third major section of global students at the U.S. community colleges.

4. **Turkey:** possibilities exist to recruit students from Turkey mostly from its graduate marketplace in addition to dual degree programmes. Known as a tough market – but possessing lots of potentials, institutions of higher learning can overcome hindrances by understanding the first choices as well as academic requirements of Turkish student section.

5.8 Global financial crisis of 2008-09 and skilled migration during recessionary period

The International Monetary Fund (IMF) study (February 2009), mentioned that the causes of the monetary crisis laid in market malfunction, bred by a extended phase of high growth, low real interest rates as well as instability and policy breakdown in fiscal regulation – which was incapable of to make out the threat and defective incentives at the back of the monetary novelty boom; macroeconomic strategies – which failed to consider the growing systemic hazards in the monetary arrangement and in housing markets; and worldwide structural design – where a disjointed surveillance structure compounded the incapacity to see mounting defencelessness and associated issues.

Sheng (2009) thinks that the crisis must be accepted as a network crisis, because as a result of an entire series of deregulation, fiscal reforms and scientific and economic innovations, the world has become strongly networked into a universal market, with laws, directives and policies running within national boundaries. Present policymakers and regulators, mainly economists, lawyers or accountants by training, have not borrowed enough from other disciplines, like information technology, biology, and engineering, in addition to psychology to discern motivation, attentiveness, volatility plus architecture are also applied generally to explain and manage network actions. Network connections through economies of

scale, reduction of transaction costs and capital effectiveness were boosted by the open market thinking that drove international monetary deregulation, trade and capital accounts liberalisation, decrease of taxation plus transaction taxes and the drive for globalisation. With steady harmonisation of practice and principles, the trends of globalisation were shaped by the four mega-trends of arbitrages in labour wages, interest rates, knowledge and regulation. The financial systems that sheltered property rights, reduced transaction expenses with high clearness and comparative advantage in expertise, technology along with governance profited from globalisation. The four worldwide arbitrages originally fashioned an era of high growth, noticeable price constancy, low instability and increasing affluence, but policymakers and also the community similarly underrated the increase of the four immoderation in —liquidity, leverage, confidence and then greed. Furthermore, it was believed that central banks possessed the implements to restrict the harm from the cyclical slump and banks had sufficient capital and smart models for risk management. Regrettably, all four lines of security for economic stability were proved to be ineffectual. The initial line of security at the board, bank administration and internal management were unsuccessful to put off the top banks from undertaking excessive risk. The next line of defence comprising auditors, legal consultants and rating agencies failed to stop the perils of building up in toxic products, and too much remunerations etc. Risk management specialists perhaps helped to maintain the incorrect beliefs that everything was controllable. The third line of security by fiscal supervisory bodies, standard-setters as well as central banks responsible for economic stability repulsively underrated the systemic effect of the debacle and was caught with off the cuff and ungainly crisis responses causing zero help in boosting market confidence. Similarly, the last line of defence of bazaar discipline, including the media and community judgment, was more pro-cyclical rather than anti-cyclical. It was an absolute failure.

The de Larosiere Report (2009) attributed the grounds of the mayhem to macroeconomic concerns, fundamental malfunction in evaluating risks, the function of rating agencies, failures of corporate governance and the collapse of crisis management. Onaran (2009) views that the two imperative long-standing incongruities of neoliberalism are free market entrepreneurship have produced higher profits for transnational firms, particularly for the fiscal sector. The high profits not necessarily always produce high investment. Second from a macroeconomic outlook, the decline in share of labour has also been a dilemma for the micro-level beneficiaries of these strategies. Profit can be realised provided there is effective demand for commodities as well as services. From the position of the whole world,

the less developed countries were evidently less impacted by this depression compared to advanced countries; from the standpoint of the developing countries the effect of the downturn is more well-known. The expansionary course of globalisation of the previous three decades rarely matched the pace of the developing world in uniform manner. A small amount of big and heavily populated (though not completely Asian) countries have developed after taking advantage of the trade led incorporation of the world, even as others have done so to a smaller degree (ILO, 2004).

The mobility of Indian students in all fields of study has varied over the years as a result of plethora of factors. The globalisation of society and economy has caused increased dependence of technological disciplines in the curricula of higher educational institutions. During the 1990's decade, there was mass exodus of India's technical skill to the U.S. reaching its peak, the majority of workforce moved to the U.S. on H1-B work visa. In this process many became successful after becoming entrepreneurs in the U.S. The emphasis on American degrees as a route of entry to the U.S. was not so important. However, after 9/11 the heightened American security, immigration and security barriers prevented the Indian workers to directly apply for a job in America from India and subsequently getting a H1-B visa. So, the modus operandi changed. The Indians started going to the U.S. as a student and then after getting enrolled changed their status from student to worker. Thus the student enrolment started increasing. But, the 2008 recession compelled the Indian students to change their game plan regarding settling in the U.S. As a result, during the post-2008 years, it has become difficult to get work visa in the U.S. Nothing like the student visa, the applicants themselves are not eligible to apply for a work visa directly nowadays. The employers can apply on their behalf. According to modern trends, most companies hiring in job fairs, prefer to hire only U.S. citizens or green card holders. So, the international students need to totally rely on references from their professors or depend on professional networking to obtain a job, or even an internship. However, the U.S. government offers all and sundry an Optional Practical Training (OPT) period to acquire a job.

The students studying in the American campuses belong to the category of skilled workforce. The effect of recession on skilled migration turned out to be to some extent true as Martin (2009) predicted. The recession slowed fresh deployments of overseas labour to higher income countries, both due to the fact that employers ask for smaller number and for this reason some governments cut short the employment of new overseas workforce; (e.g. Korea and Malaysia declared recruitment stops in January 2009). The supply of migrant

workforce in several countries stopped growing and also declined. Comparisons with previous recessions imply that the international disposition of the 2008-09 recession affected migrants in a diverse way than the earlier period for the following grounds. *First*, during this slump one area was not profiting cost-effectively to the detriment of another, so that migrants could hardly move to another destinations. *Second*, the first consequences of recession were experienced in cyclically sensitive industries e.g. construction and manufacturing, where last-hired along with often male migrants were among the first to be discharged. *Third*, there existed far more concern about remittances and their role to development in migrant-sending regions than during preceding recessions. *Fourth*, immigration was less influenced drastically in the United States compared to other conventional immigration countries as a bigger share of the U.S. immigrants' move under preferences of family unification (Papademetriou et al. 2009). This was rather applicable to the enrolment of students from India in the American institutions following recessionary periods. There has been fall of Indian student enrolment during and immediately after recession in the United States. However, after few years, the U.S. economy picked up and impact of recession was felt less in the enrolment of Indian students.

5.8.1 Remittance flow in India – USA context

Remittances are monetary flows starting from the cross-border movement of countrymen. In contracted logic, they denote —unrequited transfers,|| suggesting money that migrants remit to family as well as friends without any claims contrary to other fiscal flows like debt or equity. The World Bank (2003) thinks that the definition ought to include two types of remittance flow that are recorded disjointedly in a country's balance of payments statistics such as —migrant transfers,|| arising from the migration of persons from one financial system to another and are equal to the net value of the migrants; and also —compensation of employees,|| which are resources remitted back by temporary workforce, who work abroad for less than a year. The remittances are commonly defined as the sum of three elements in the IMF's Balance of Payment Statistics Yearbook (BOPSY): migrant transfers, compensation of employees, and workers' remittances. This is used as a standard definition in the World Development Indicators (WDI) and the World Bank's Global Development Finance databases too (Matuzeviciute et al, 2016). Debates do exist among academicians and policy makers regarding the viability of remittance money in the case of the developing countries like India. The proponents often argue that brain drain phenomena has facilitated the remittance income for cash-starved countries of the world; whereas, others think that the

loss of precious human capital hinders the developing countries to deliver crucial services in areas like health, education and other key sectors vital for overall progress for nations.

A study by Aggarwal et al (2006) finds that remittances have a noteworthy and optimistic effect on both bank deposits in addition to the ratio of credit to GDP. Kapur, et al (2005) view that given a substantial quantity of remittances passing through illegal ways, while those moved through official paths invite lofty transaction expenditure, one might logically anticipate more outflows (from the sending countries) than inflows. But the figures in reality demonstrate the reverse scenario. Cuba, Liberia, Haiti and Vietnam confirm zero remittance inflows, whereas Hong Kong, Singapore, and Canada also prove zero or very little outflows, regardless of bulky immigrant populations in all cases. Many countries have abrupt surges, which are unfathomable under most conceivable state of affairs. There are great disparities in remittances across countries per foreign worker (see figure 8.1). High remittances from Belgium/Luxembourg and Switzerland are a dilemma and could plainly mirror the fact that the above countries are banking centers, thus remittance outflows may basically be camouflaging money laundering. The enormous ambiguity surrounding remittances is mirrored in the changing numbers recorded by diverse sources.

The pragmatic substantiation on the possible effects of positive and negative impact of skilled emigration is an unsettled issue (Güngör et al., 2010). For instance, Faini (2006) provides substantiation that skilled migrants send less remittance money than unskilled emigrants, even as a research rooted in micro data by Bollard et al. (2009) advocates contradictory findings. Remittance flows to developing countries of every income-level have matured exponentially since 1980. It was repeated during 1990-1999 compared with 1980-1989 and tripled afterwards. Increase of remittances in less developed countries has been five times higher during 2000-2009 in relation to 1990-1999, whereas the remittances for LDCs have also shown noteworthy growth. More than 90 per cent of the remittances flow to middle-income countries, which have tripled their remittances between 1990-1999 and 2000-2009.

Documented flow of workers' remittances to less developed countries have witnessed growth over the years and fast growth rates have helped in attracting attention to remittance income as a possible means for development (Freund, et al 2005). Remittances are expected to enhance on the international level. With expanding globalisation the movement of persons has become evident. Trade, transport, telecommunication, transmitting remittances, tourism etc. strengthen the acquaintances between migrants and their motherlands. Remittances have

proved to be an element of the human face of globalisation (Orozco, 2003). Kapur et al (2005: 142) think that the rate of recurrence and strength of economic crises in several developing countries during the last two decades have augmented the necessity for social safety nets, amplifying the demand for remittances. Bollard et al (2009) have found that two of the most prominent propensity in migration and development over the last twenty years are the great increase in remittances in addition to the flow of skilled migrants. Research proves a diverse model between education and the probability of remitting, and a strong encouraging link between education and amount remitted.

There are two discrete characteristics of total global remittances to India. One fraction goes towards family upholding and principally keeps up family consumption. These remittances are mostly conducted by means of wire transfers as well as bank drafts (RBI 2006). Another fraction originates from NRI deposits and can be deemed as mainly sustaining domestic savings of the NRI's. Thus, withdrawals from NRE (Non-Resident External) accounts; where the joint-holders can only be NRI's and not resident Indians are presumably directed towards domestic investments of the NRI's in real estate, equity market and other avenues (RBI 2010b; Tumbe, 2011: 10). The two Indian states, e.g. Tamil Nadu and Andhra Pradesh account for almost a fifth of global domestic remittance flows, with approximately a 50-50 share between rural and urban areas. Punjab, Goa and Kerala's heavy reliance on worldwide remittance flows can be judged by the 'total' international remittance to Net Domestic Product (NDP) ratio (Tumbe, 2011: 11-14). Internationally, remittances were about US\$414 billion in 2009, of which US\$316 billion flowed to developing countries, and involved about 192 million migrants of the global population. In many developing nations, remittances are a significant source of family (and national) earnings and are the principal source of peripheral financing. Certainly, in many developing countries, remittances can comprise above 20 percent of GDP. The extent and possible impact of the remittance inflows is great. Remittances add to the receiver country's foreign exchange reserves. Though capital flows have a tendency to augment during favourable monetary cycles and decline in bad times, remittances are likely to be countercyclical compared with recipient countries' financial cycles. Remittances also tend to be less unstable concerning other sources of foreign exchange incomes. Remittances sustain fiscal sector progress through a strong and affirmative impact on bank deposits plus credit to the private sector.

At the family unit level, the beneficiaries habitually count on remittances to cover every day living costs, to endow with a cushion against urgent situation, or to make little

amount of investments in commerce or education. Remittances are better targeted to the requirements of the underprivileged than are overseas aid or FDI. India has surpassed Mexico to attain the world's leading remittance destination. India and China are the principal recipient countries of remittances globally with remittance of 45 billion or more each.

Workers' remittances have always constituted about 3 to 4 percent of India's GDP ever since FY 1999/2000; have provided substantial sustenance to balance of payments of India. Remittances financed almost 45 percent of the merchandise trade deficit from FY 2005/06 to FY 2008/09. Remittances have exceeded both foreign assistance flows in addition to foreign direct investment (FDI) flows (Gupta 2006). Notwithstanding a deceleration in general remittance flows to developing countries owing to the international monetary disaster, remittance flow to South Asia has been resilient. The source countries for remittance income to India are similar to the destination countries for migrants from India. The RBI estimates that approximately 38 percent of total remittance incomes to India in 2009 started off from North America whereas 27 percent has origin from the Gulf countries, regardless of bigger share of Indian migrant population in the Gulf (RBI 2010a). This could be owing to the fact that expatriate Indians in North American are more skilled and better paid (MOIA 2009). The following table shows the remittance income of the different countries of the world. India's remittance income was \$58 billion in 2011, followed by \$57 billion for China, \$24 billion for Mexico and \$23 billion for Philippines. India's remittance income has developed from \$13 billion to \$58 billion from 2000 to 2011. The inflows include 3 percent of India's GDP in 2010, even as it was just 0.8 percent for China. India is the world's chief remittance receiver, whereas China, Philippines, Mexico, Nigeria receive massive amount of money. Other bulky recipients are Egypt, Pakistan, and Bangladesh etc. Remittances aid developing nations to improve their foreign exchange reserves; and assist them to meet up their balance of payment needs. The great majority of unskilled workforces in the U.S. belong to Latin America and the Caribbean countries. In accordance with the World Bank (2012) publication Migration and Development Brief November issue, the flows of remittance to the developing world expects remittances growing over the preceding years. Besides, the growing number of non-resident Indians, the feeble Indian currency and investment in personal property probably boosted the remittance flow to India. Nevertheless, in spite of the growth in general remittance income to developing nations, the large-scale monetary crisis restricts remittance flows to a number of regions, with Europe and Central Asia and Sub-Saharan Africa particularly involved in the restricted remittance income.

Regions with enormous number of migrants in oil export based countries continue to observe healthy growth in remittance income, in comparison to those whose migrants are mostly settled in the highly developed economies, particularly Western Europe. The report also mentioned that though remittances to developing nations grew in 2011, they are susceptible to the unconvinced economic scenario in the countries witnessing immigration.

The major character of the 2008/2009 ‘Global Crash’ was its capability to hit more hastily and distressing more countries than previous worldwide financial depressions. Recession has had a patchy effect on labour market across geographies. As during other fiscal slumps, migrants are among the most exposed class of workforce affected by failing job scenario. Impact of the recession on remittance flows depends on numerous factors like the proclivity of migrants to remit money, dependent on length of stay as well as family conditions and also the conditions at home is also a significant issue (Laczko, 2010). Afram, (2012) view that remittances to India faintly declined to US\$49.2 billion in 2009, in relation to US\$49.9 billion in 2008. In the commencement of the second half of 2008, the remittance flows were slowing down because of the global financial crisis. Remittance inflows measured as private transfers has observed growth of approximately 60 percent through the first quarter of 2008 and during the second and third quarters of 2008, by 48 percent and 43 percent correspondingly, corresponding to the similar periods in the preceding year. For the duration of the fourth quarter of 2008 and also the first quarter of 2009, nevertheless, the remittances declined by 4.5 percent and 31.5 percent, correspondingly, proportionate to the equivalent periods in the preceding year. Generally, during the first half of 2009 i.e. from January to June remittances witnessed decline by 15 percent from US\$26.7 billion to US\$23.1 billion, for the duration of the identical period in 2008. Yet, as can be seen in figure 2.7, the remittances rose once more registering a development of 5 percent and 4 percent, in that order, in both the second plus third quarters of 2009 over the equivalent time in 2008. Hence, remittance to India declined on account of the international monetary crisis in only two quarters i.e. last quarter of 2008 along with the first quarter of 2009. With the economic crisis and resulting deceleration trouncing several remittance source countries, NRIs, who have experienced earnings as well as employment snags, probably have substituted transfer of funds to their relatives by drawing on their overseas cash deposits back in India. Non-resident savings with Indian banks fell in U.S. dollar terms as well as in Indian rupees from July to October 2008. This development, though, started to turn round in November 2008, and this trend still continues.

Remittance inflows ultimately recovered to US\$55 billion in 2010. Private transfers in FY 2009/10 witnessed an improvement of over 17 percent or above US\$54 billion over the preceding fiscal year. In the second part of FY 2009/10, private remittances were US\$30 billion, almost a 50 percent augment over the US\$20 billion earned during the first half of FY 2009/10. This partial consequence of the economic crisis on remittance to India may be accredited to several factors. Primary, declining asset value in India, increasing interest rate disparity, and a downgrading of the local currency pulled investments from migrants. Secondly, even though some migrants lost their work and subsequently returned to India, with accumulated savings they had, many Indians after losing jobs decided to take lower salary jobs with other companies. Mohapatra et al (2011) view that for the first time ever since the international monetary crisis, remittance income of all six developing regions increased in 2011. Growth of remittances in 2011 was beyond outlook in four regions, particularly in Europe and Central Asia; because of higher outward remittance flows from Russia benefitting from elevated oil prices and Sub-Saharan Africa; due to well-built south-south flows plus weak currencies in a few countries that was pulling factor for bigger volume of remittances. Contrastingly, remittance growth to Latin America and Caribbean was lesser than formerly anticipated, thanks to systematic Achilles' heel in the U.S. financial system in addition to Spain. Remittances to Middle East and Africa were also affected by the —Arab Spring

- Following this rebound in 2011, the growth of remittance to developing countries is likely to prolong at 7-8 percent yearly to arrive at \$441 billion by 2014. Internationally remittance flows, including remittance to affluent countries, are likely to surpass \$590 billion by 2014.

- However, there is grave menace like persistent unemployment in Europe and the U.S. affecting job scenario of existing migrant population and tough political attitudes toward new immigration. Unstable exchange rates and ambiguity regarding the direction of oil prices also present additional hazard to the position for remittances.

- Remittance expenses have dropped gradually from 8.8 percent in 2008 to 7.3 percent in the third quarter of 2011. Still, remittance costs have remained high, particularly in Africa along with small countries where remittances provide a support to the underprivileged. Officially recorded remittance income flowing to developing nations is estimated to have attained \$351 billion in 2011, which is an 8 percent enhancement over \$325 billion in 2010. According to World Bank (2017), India's Diaspora will send approximately US\$ 65 billion in

2017. The other top five receiving countries are China receiving US\$ 61 billion, the Philippines receiving US\$ 33 billion, Mexico receiving US\$ 31 billion, and Nigeria receiving about US\$ 22 billion. Remittances to India will probably grow by 4.2 percent in 2017, after a steep decline of nine percent in 2016. India's remittance income was US\$ 62.7 billion in 2016. India's remittance income in 2018 is expected to grow at 2.5 per cent. According to a recent study by Bhandari et al (2009) of Manpower India, the corporate sectors like Hewlett Packard, Yahoo introduced business in India mainly due to confidence generated by the skilled Indian workforce working in the United States.

The World Bank (2017) estimates that officially recorded remittances to developing countries was \$429 billion in 2016, suggests a decline of 2.4 percent more than \$440 billion in 2015. The report is apprehensive because weakening of remittance flows can impact on the capability of families to get access to health care, education or nutrition. The following year data suggests improvement in remittance income. India is not only dependent on the U.S. for the remittance money, but also the skill and experience learnt by the technical Indian manpower working in the United States. The intangible resource is produced by the Indian scientists in the American laboratories and engineers in the IT firms of the USA is invaluable innovations for which the U.S. firms and government gains in the form of royalty and business supremacy over India. In return India is forced to pay a significant share of that remittance income to the U.S. by direct and indirect means. So, it is difficult to establish the validity of remittance income and development. Regarding the experience of the Indian doctors working in USA, it may be a case of brain drain rather than remittance issues. India as a country woefully lacks critical healthcare services in rural areas in particular. The experience of the doctors in the U.S. hardly comes to the use of India. A vast section of the doctors of Indian origin are engaged in economically lucrative profession in the U.S. rather than research in medicine. The recent counter migration from the United States to China suggests significant spurt in start ups in China by the Chinese Diaspora who lived in the west for long time and gained valuable skill and experience. China has been a major gainer in this respect, caused by brain gain.

5.8.2 Social remittances

Peggy Levitt in her book, *The Transnational Villagers* (2001), used the term social remittances. North-South Centre of the Council of Europe's (undated: 8) report views Diaspora as a latent resource rather than a cause of worry; and also a budding human and social capital having capability to make important input to the political as well as institutional

progress to the home countries, apart from sending money. It is critical to believe that migrants also transmit other forms of remittances to their motherland such as *social remittances*. Social remittances deserve consideration for a number of grounds.

At the outset, they play an imperative function in formation of transnational collectivity. Secondly, they bring the issues like the social impacts of migration at the forefront. And thirdly, social remittances are a possible community development support. Diasporas are termed as historical forerunner of contemporary transnationalism. Notwithstanding monetary possessions migrants also obtain knowledge, useful expertise and skilled experience, and also they enjoy a set of connections of social relations leading to a certain human capital. When better incorporated into their host cultures, migrants and refugees are better capable to give effort for the development of the political ambience in their birthplaces. The association of migrants to two spheres carries an additional possibility in cultural requisites both for the origin and destination countries. This aspect of living in different countries enables them to become intercultural intermediaries, emissaries and activators. North-South Centre of the Council of Europe's study also finds African Diasporas spreading social remittances to home countries in an informal, incomplete and irregular way. According to Levitt (2001), three categories of social remittances such as, —normative structures, —systems of practice, and —social capital are important. Normative structures encompass ideas, values, and beliefs which include norm for behaviour, accepted wisdom about family liability, ethics of sociability and community involvement, and goals for social mobility. They also include ideas concerning gender, race, as well as class identity.

Nevertheless, regardless of the significance linked to social remittances, the less developed nations lack fundamental services in several key areas similar to medicine, where brain circulation is not so common. The health centres in small towns and villages are woefully short of basic healthcare services. Despite all the advantages accrued by social remittances some key services can hardly be neglected in a developing country like India. Levitt et al. (2010) opine that social remittances are less researched but significant piece of the migration-development nexus. Their impact on immigrant amalgamation processes and the dynamics of sending-communities is not easily comprehensible. How they cast impact on development-project results, in origin and in settlement countries, is frequently unobserved.

The social remittance by emigrant Indians is important in the present circumstances as apparent by the government of India documents. They also add knowledge of the world, global networks, novel ideas, and technologies along with markets to their native soil. It is the

need of the country that the Indian Diaspora should be engaged for stepping up their rendezvous with India. The international understanding of the outcomes of international networks as sources along with facilitators of commerce and investment, suppliers of remittances and as brain banks may be important. The growth of fast communications, effortless of worldwide travel, tolerant host country courses of action, etc. have helped the Indian Diaspora to concurrently incorporate into their relevant host countries and also uphold their socio-economic plus political acquaintances with India in addition to members of same-group ethnicities distributed around the globe. These networks are valuable to transnational corporations including up-and-coming Indian multinationals. They also make possible the process of globalisation in India. Some of the Indian Diaspora have attained international character and are advocates of the rising idea of universal nationality. Diaspora youth are a grand asset on account of their intellectual resources, fervour, devotion and energy. In addition, Diaspora members, their institutes and concerns can play host to interns from India that may affect India's understanding of nations positively where Diaspora has a large presence. Thus, present association between the Indian Diaspora and India provide a tactical instrument in India's surfacing as an international power.

The less developed countries in Asia and Africa receive remittance income. This source of income has played a vital developmental role in such backward geographical regions. However, despite the money flow sent by the emigrant population and also social remittances it is quite noticeable that many sectors in the developing countries such as India lag behind due to lack of human resources. Health is one such field where India suffers because of non-availability of doctors. Historical experiences suggest the active role of human resources in the developed countries in the past was priceless. Very few countries have become developed in true sense of the term by depending on remittance only. Hence, over-reliance on remittance by ignoring the socio-economic development of the country is an imprudent policy decision.

Research related to remittance always faces lack of data and information. Even the IMF (2009) agrees the limited availability of data in this regard. There is a serious need to develop statistics on remittances at the national and bilateral corridor point. The national data on remittances is of comparatively subordinate quality in many countries compared to data on foreign direct investment along with official flows. Remittance inflows frequently comprise other objects other than those sent by expatriates, like small value trade and payments connections and in a number of cases, even transfers to NGOs and embassies. The World

Bank, IMF, OECD and Eurostat along with central banks as well as national statistical offices tried to introduce novel definitions of —personal remittances‡ in the manual of the IMF. Still, some countries assemble remittances data by making use of the Balance of Payments Manual (BPM4), which carries the risk of major underreporting of inflows. While Ghana, for example reported remittance income of \$136 million (in 2010) to the IMF Balance of Payments, the central bank of Ghana reports inflows exceeding \$1.8 billion. Also there are concerns with uniformity of definitions plus coverage of migrant remittances, particularly during crisis-period. Often bilateral remittances data are not documented. Where data on the starting place of remittances are published by central banks (like Philippines), these flows are regularly attributed to global clearing centres through which remittance proceeds are routed, in preference to the countries where the remittances really start off.

5.8 Conclusion

Remittance income has been hailed as a significant source of income for the developing countries. The skilled labour migration and mobility is regarded as a loss of valuable human skill, innovativeness, experience etc. who contribute to the economy and society of the developed nations. These losses are viewed to be compensated by remittance income. Nevertheless, it is really difficult to estimate the gain by remittance earning by India and the loss caused by outward mobility and migration. This is because the gain if any contributed by the expatriate human resource living in the U.S. is invisible resource gained by India. While the U.S. can gain out of its demographic deficits, the over dependence of India on remittance as a country of 130 billion population, surely cuts a sorry figure. The U.S. Census data confirms the presence of 45 percent of the foreign born population in 25 – 44 age group as compared to 27 percent of the native population. Thus, it is difficult to ascertain whether the remittance gain is a positive aspect for India or not.