

## A STUDY OF TERTIARY EDUCATION AND SHIFTS IN GLOBALLY MOBILE STUDENTS

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### ABSTRACT

Globalisation has impacted almost every aspect of human life. It has manifested itself in the form of internationalization in the field of higher education. Before the winds of globalisation blew over the global economy, there were a few nations which were exporting higher education to a wide range of nationals across the globe. Today both the numbers and stakes have gone up in attracting and retaining mobile students. Globalization is a multifaceted process with economic, social, political and cultural implications for higher education. It poses new challenges at a time when nation-states are no longer the sole providers of higher education. (UNESCO 2004) Global trade negotiations were restricted to goods only for a pretty long time. However, with ever increasing contribution of services in the share of GDP, GATS (General Agreement on Trade in Services) was introduced in WTO. GATS include trade in educational services as agreed to and committed by member countries. Since India had proved its strength in IT sector, it was thought that the nation had a huge scope and potential to export higher education. However, there have been very few changes in the ranking and composition of countries leading in the export of higher education. This paper tries to portray the developed nations which are global leaders in the export of higher education. An attempt is made to understand the broad reasons for their success in achieving and sustaining leadership position for a fairly long period of time. The focus of the study is on the type of shifts that are taking place in the global mobility of students and their enrollments.

### KEYWORDS

Tertiary education, Students, Developed Nations.

### BACKGROUND

One can ascribe various reasons why students chose to abroad for higher studies. A certain specialized course may not be available with in the country and hence some students may seek out a foreign land where this is offered-a 'push' factor. There are others who prefer an over seas destination as it gives a broader horizon, a richer cultural understanding or simply a different experience.

There could also be 'pull' factors responsible for some nations and universities leading in export of higher education. Some of the best known universities and institutes attract learners from far and wide. Recession notwithstanding, there are nations which aim at retaining talented and highly skilled professionals. Since most institutions charge higher tuition from the foreign students, there is an incentive for the host institutions to attract students from abroad. Demographic factors may also 'pull' students to countries where natural growth in population has hit the rock bottom or even turned negative. Generally speaking, most of the first world nations are in this league whereas a large number of third world countries are facing problems of uninhibited growth in population.

### OBJECTIVES

1. To study the trends in growth of tertiary education by broad geographical regions.
2. To study the cross border mobility of students and analyse data with regard to sending and receiving countries
3. To find out broad shifts taking place in the global arena in respect of student's mobility.
4. To analyse the possible reasons why certain countries lead the global market in respect of export of higher education.

### METHODOLOGY

Secondary data is used for this analysis. Some of the data which is available is not useful for making international comparisons. Further, getting authentic data is also a challenge. As far as possible, data is collected from UNESCO, World Bank and other reputed national and international agencies for the study. A period of 8 years, that is from 1999 to 2007 is selected for the study. The year 2007 is the latest period for which globally comparable data is available. Eight years is long enough as it can iron out variations and give out a representative average. In some cases, data is collated for a longer period that is from 1970.

#### Growth in tertiary education

Globally the number of students enrolled in higher education has skyrocketed over the past 37 years, growing five-fold from 28.6 million in 1970 to 152.5 million in 2007. In effect, this means an average annual increase of 4.6%; with the average number of students in higher education doubling every 15 years. However, the expansion in tertiary education has been particularly rapid since 2000, with 51.7 million fresh tertiary students enrolled around the world in time span of just seven years.

The sub Saharan Africa has experienced the highest average regional growth rate. In the past thirty years, student numbers have risen by an average of 8.6% each year. Between 2000 and 2005, expansion reached a peak level with an annual growth rate reaching 10%. Despite this remarkable achievement, the region as a whole still lags behind other regions in the world in terms of total tertiary student numbers. Even the speed with which tertiary numbers have increased has been slow, seen in the context of some other regions where the growth took place quite rapidly. Whereas it took 37 years to achieve these numbers in sub-Saharan Africa, such additions happened in recent years on an average every two years in China or five years in Latin America and the Caribbean. Since the year 2000, the number of students in tertiary education has gone up by an average of 19% every year.

Rapid growth has also been reported in East Asia and the Pacific, where the number of students has risen twelve-fold, from 3.9 million in 1970 to 46.7 million in 2007. After the year 2000, the region became the global leader in terms of student numbers in higher education, surpassing North America and Western Europe. This has been primarily due to huge surge in student numbers in China.

Student numbers also rose in Latin America and the Caribbean by ten-fold since 1970, reaching 1th the level of 7.8 million in 2007. While growth in enrolment in this region was rapid between 1970 and 1980 with an annual rate of 11%, it slowed down between 1980 and 2000. Since 2000, enrolment growth in the region has again accelerated, reaching an annual rate of 6.8%.

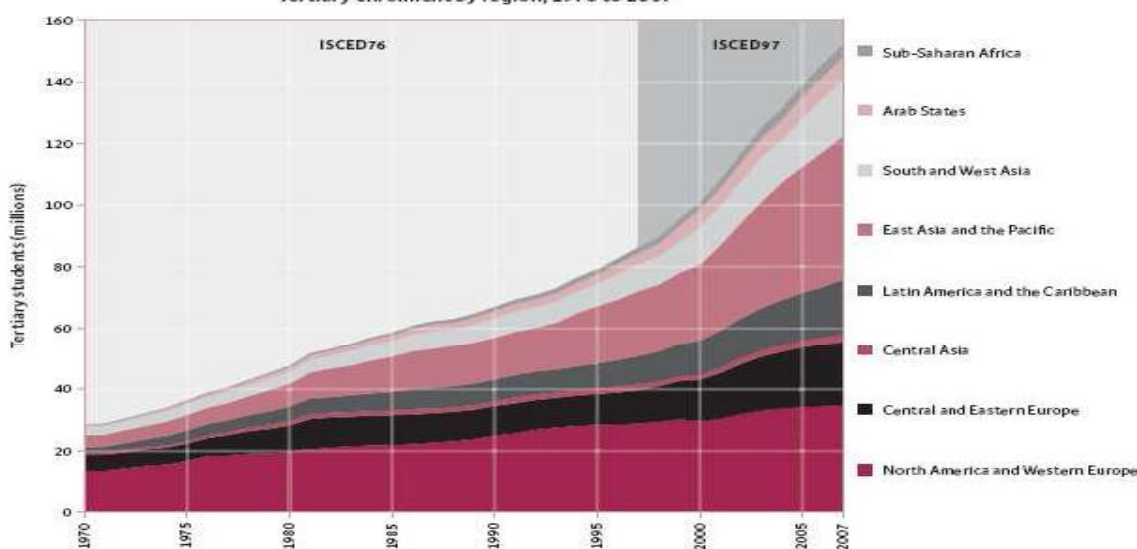
The expansion has been markedly slower in South and West Asia with an average annual growth rate of 5.2%. The region experienced a peak of 7% growth during the 1990s but rates have actually fallen since 2000 – in contrast to trends in other regions. Overall, the student population has grown almost six-fold from 2.8 million to 18.5 million between 1970 and 2007.

The slowest rate of growth in terms of net additions to student numbers in the tertiary sector was recorded in North America and Western Europe. This is not surprising. Nations in these regions have experienced historically high participation ratios in tertiary sector. Since the decade of 1970's they have been affected by falling birth rates. When making regional and international comparisons, it is useful to take in to account the total time required for student numbers to double. As per average growth rates reported since 1970, this occurred every 27 years in North America and Western Europe. Compare this with 8.4 years in sub-Saharan Africa and 9.3 years in the Arab States, one gets a picture in perspective. Student numbers doubled every 10 years in East Asia and the Pacific as well as in Latin America and the Caribbean. Further, the growth rate has been slower comparatively in South and West Asia, where it took 13.6 years for student numbers in higher education to double. The pronounced differences in growth rates across regions, especially between North America and Europe and the rest of the world, has had two significant impacts. One, the distribution of the world's tertiary education students has got skewed in favour of developing countries. And second, rich countries have started relying more on international students for their enrollments.

In 1970 almost every second tertiary student in the world studied in North America or Western Europe. But now, it has fallen to one out of every four students. In effect, the regional share in global enrollment has gone down from 48% to 23% between 1970 and 2007-which is a fall of more than 50%. (Graph 2) The distribution of tertiary students globally is shifting from high income nations to low and middle income nations. Today, a large majority of higher education students live in low and middle income countries. In 1970 57% of tertiary students lived in a small group of high income nations; now 42% of the total is from low middle income countries. (Graph 3) In 1970's too, high income countries has relatively much less population in the relevant age group-just one-fifth of the global numbers; rest of the students studying came from overseas. The low income nations are unable to sustain the expansion in their tertiary enrollments; hence they are unable to keep pace with rising population.

GRAPH - 1

How did the absolute number of tertiary students change over the last decades?  
Tertiary enrolment by region, 1970 to 2007

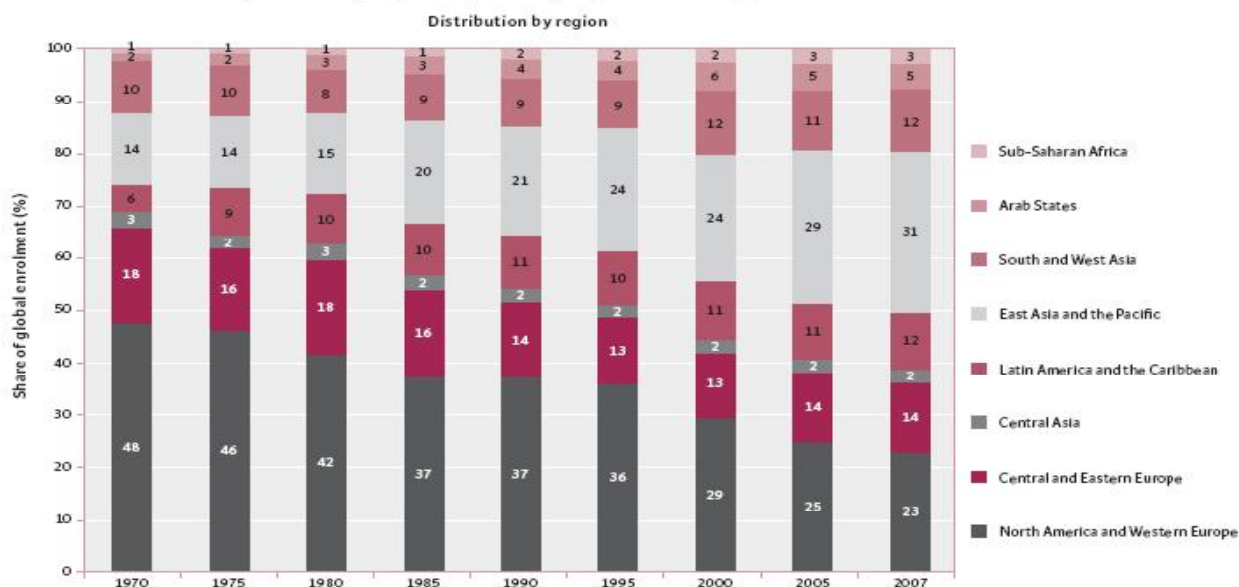


Source: UNESCO Institute of Statistics, Time series data

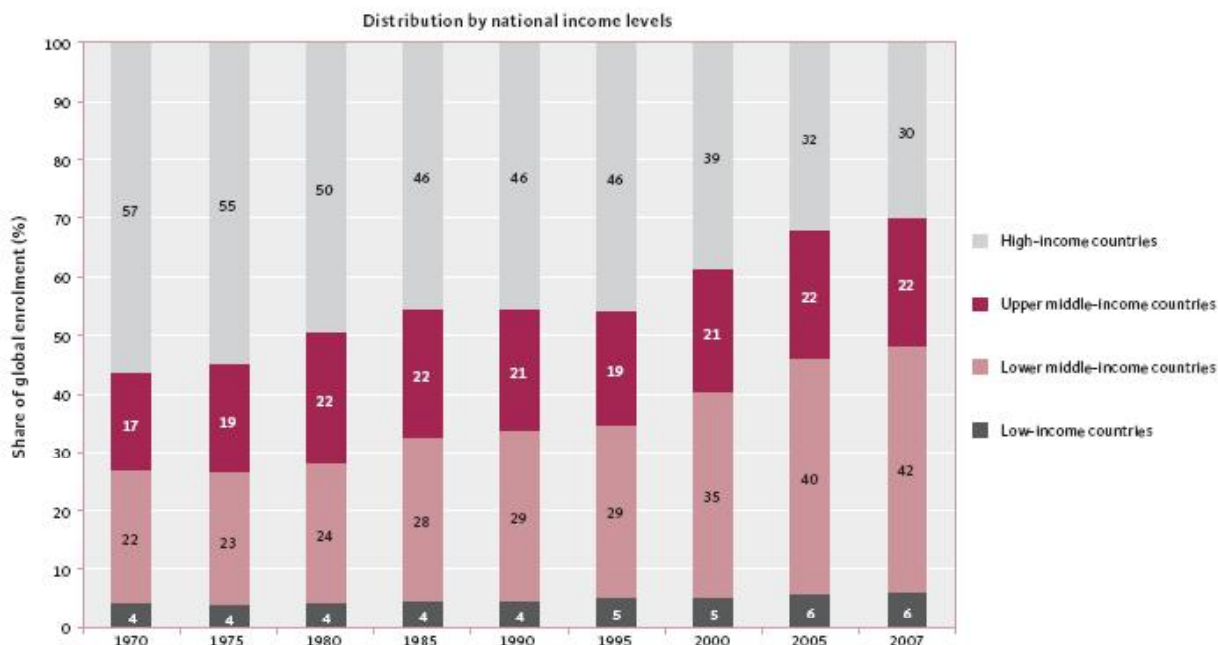
As can be seen from the above graph, Sub-Saharan Africa is the fastest growing in terms of tertiary enrollments followed by Arab States and South and West Asia. North America and Western Europe, as a region, is the slowest growing in terms of absolute higher education enrollments.

GRAPH 2

Tertiary enrolment by region as a percentage of global enrolment, 1970 to 2007



GRAPH - 3



Source: UNESCO Institute of Statistics, Time series data

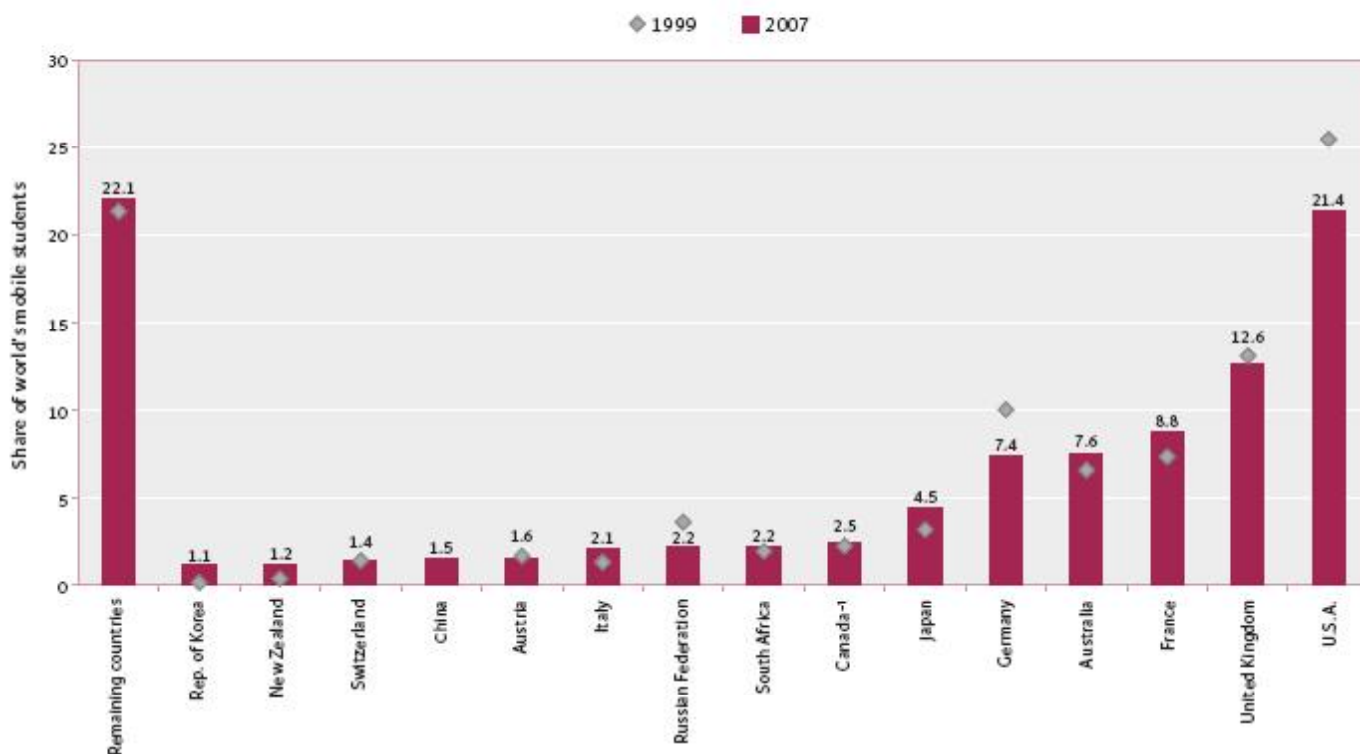
Low income countries have very low gross enrollments at 6% and they are not growing. Low middle-income nations registered rapid increase in GER between 1995 and 2005 but are now projected to grow slower than earlier. There has not been much change in the status of upper middle-income countries. There is a definite shift from high income countries over this period as can be seen from Graph 3.

In 2007, there were 2.8 million students who were enrolled in tertiary education in overseas countries. This was 4.6% higher than those who had registered in the year 2006. Between 1999 and 2007 the percentage increase in students enrolled outside the countries of their origin was 55%, with an average annual growth rate of 5.5%. The share of female students has risen from a percentage of 46 in 1999 to 49 in 2007.

China sent the maximum numbers of students overseas for higher education- 4,21,000; though this growth rate is now falling as more Chinese prefer to stay at home for further studies. India is second in the list with about 1,53,00 students going abroad every year for higher studies. The percentage growth is increasing in case of India. Korea, Germany, Japan, France, USA, Malaysia, Canada and Russia are the other nations, in that order, sending highest numbers of students abroad for higher education. These ten countries account for 37.5% for the global mobile students for which data is available from 153 countries with UNESCO.

GRAPH - 4

Percentage of mobile students by country of destination, 1999 and 2007

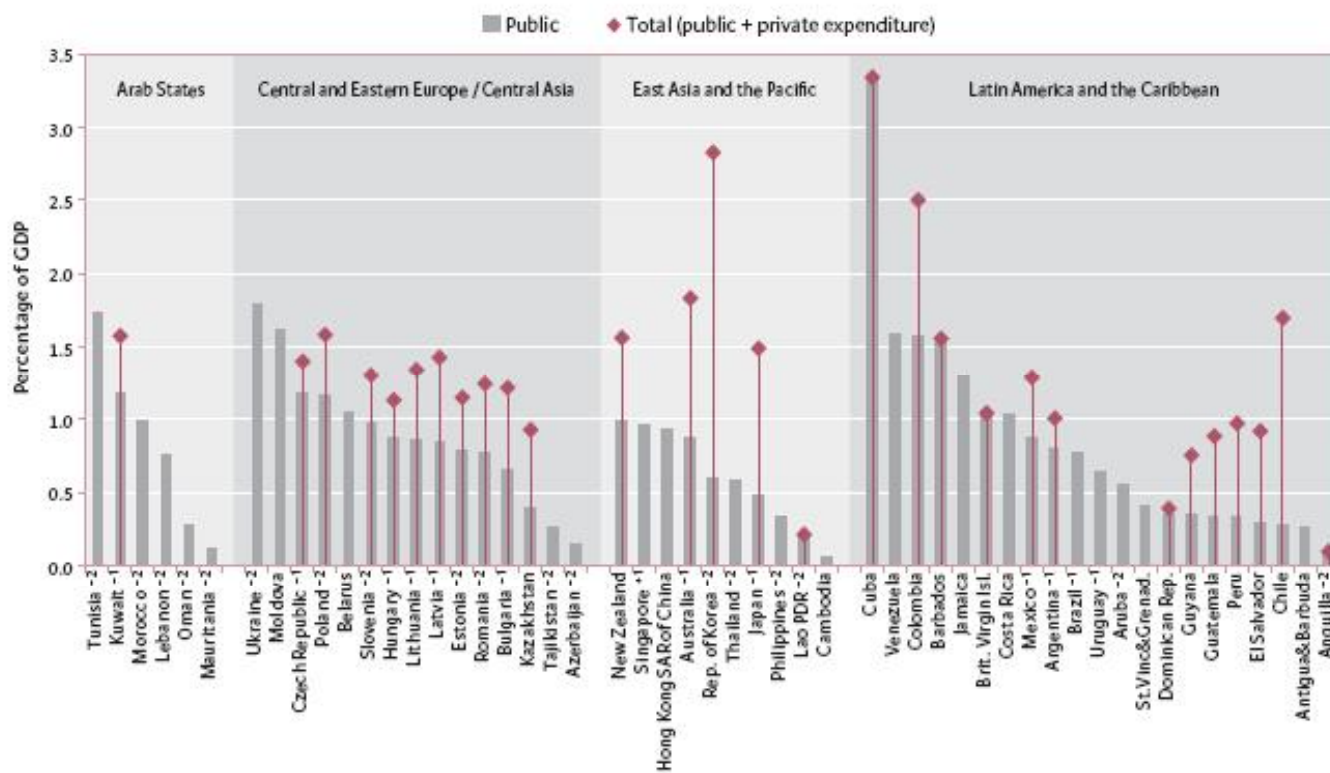


Source: UNESCO Institute of Statistics, Time series data.

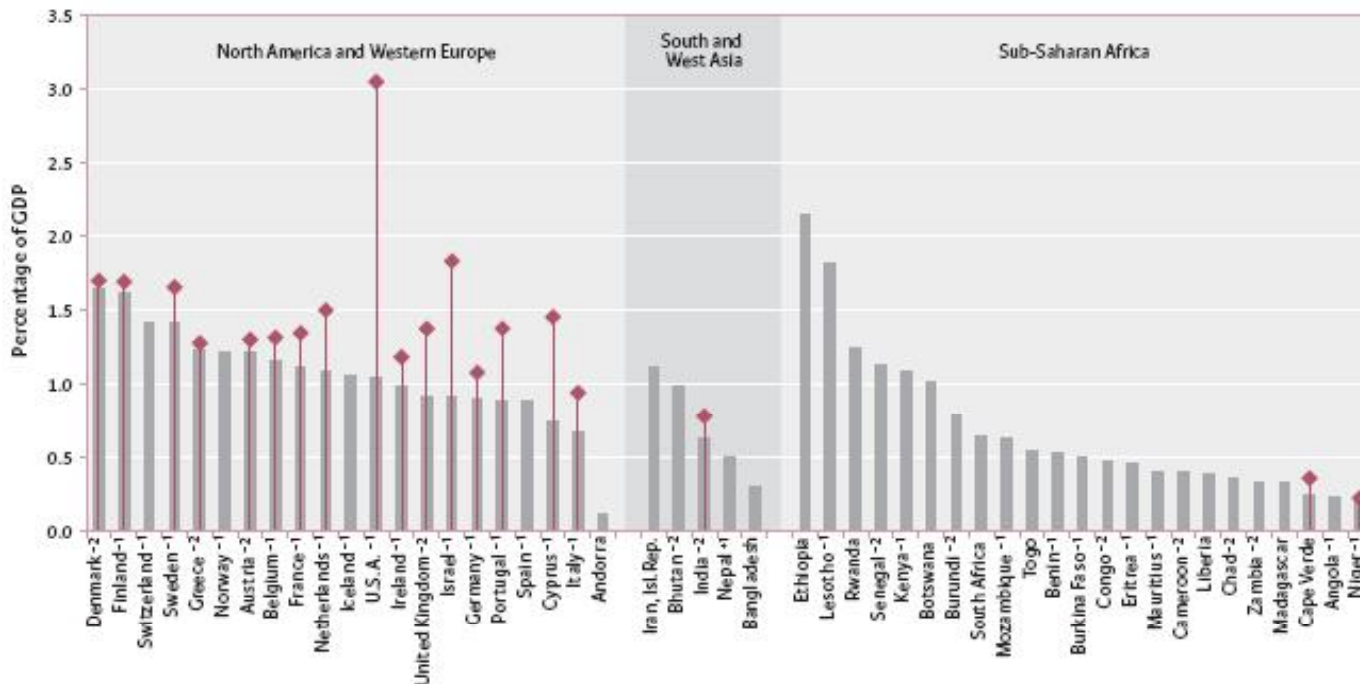
USA and U.K. have been top attractions for internationally mobile students. The USA gets nearly 22% of global students opting to study abroad whereas the U.K. is preferred by about 13% for higher studies. Australia, Canada and Germany have also been in the forefront in attracting foreign students in large numbers. Whereas the global top destinations have remained more or less in tact, there are interesting shifts which have begun to take place. USA is seeing its global share decline by almost 4% in the period between 1999 and 2007 whereas U.K. has barely managed to retain its share. Germany has also lost some of its sheen in the said period.

China was not in the race in 1999; but now has emerged with a 1.5% share of globally mobile students in 2007. Republic of Korea and New Zealand have increased their market share in the said period.

**GRAPH - 5**  
Public and total expenditures in tertiary education as a percentage of GDP, 2007



**GRAPH - 6**



Shifts taking place in global mobility of students has a basis in huge investments made in higher educational institutions by some of these nations in the last few years. The leading position of USA is directly attributable to high level of expenditure, more than 3% of GDP of which the public expenditure is almost 1% , in tertiary education. U.K. spends nearly 2% of GDP on tertiary education.

The Republic of Korea is surging ahead with its ambitious program on higher education. Its total expenditure on tertiary education is almost touching 3% of GDP, mostly led by private investments as Government spending is a little higher than 0.5% of GDP. China along with Hong Kong is emerging as the new

destination for globally mobile students. It is driven mostly public expenditure amounting to almost half of total expenditure. In stark contrast, Indian spend on higher education is very small; in the 11<sup>th</sup> five year plan Government has set ambitious plans to set up world class universities, new IIT's, IIM and Indian Institutes of Information Technology. The Central Government is setting up 12 more Central Universities and has set aside Rs.3,280 Crores or \$73 million. This may appear to be a lot of money-especially in the contest of funds-starved Indian higher education. But the amount is grossly inadequate. Setting up of a large research-intensive world class university in China cost \$700 million plus an annual budget of \$400 million (Altbach and Jayaram 2009).

**GLOBAL RANKINGS OF UNIVERSITIES**

Amongst the global universities and Institutes, there is intense competition to secure top rankings. In the age of information and technology, rankings do influence even more the choice of internationally mobile students. The USA has the highest number of universities and institutes in top one and two hundred institutions.

NATIONAL PRIDE: TOP INSTITUTIONS OF EACH COUNTRY REPRESENTED IN THE TOP 200			
Country	Number of institutions	Best institution	World rank
US	72	Harvard University	1
UK	29	University of Oxford and University of Cambridge	-6
Germany	14	University of Göttingen	-43
Netherlands	10	Eindhoven University of Technology	114
Canada	9	University of Toronto	17
Australia	7	University of Melbourne	36
Switzerland	6	Swiss Federal Institute of Technology, Zurich	-15
China	6	Peking University	37
Sweden	6	Karolinska Institute	-43
Japan	5	University of Tokyo	26
Hong Kong	4	University of Hong Kong	21
South Korea	4	Pohang University of Science and Technology	28
France	4	École Polytechnique, Paris	39
Taiwan	4	National Tsing Hua University	-107
Denmark	3	Technical University of Denmark	-122
Singapore	2	National University of Singapore	34
Ireland	2	Trinity College Dublin	76
Turkey	2	Bilkent University	-112
Belgium	2	Katholieke Universiteit Leuven	119
Spain	2	University of Barcelona	142
Austria	2	University of Innsbruck	-187
Finland	1	University of Helsinki	102
South Africa	1	University of Cape Town	-107
Norway	1	University of Bergen	135
New Zealand	1	University of Auckland	-145
Egypt	1	Alexandria University	-147

Source: Times Higher Education 2009

The US has as many as 72 in the top 200 global universities and institutes. That is more than twice the number that the nearest rival U.K. with 29 has in the global rankings. The USA also bags all the top five slots. Germany and Netherlands are the only remaining two nations to have scores in double digits. India does not have a single institution to show in the list of top 200 universities. In the last year's rankings, two Indian IIT's were a part of this elite list. Nations, much smaller in size such as Turkey, Singapore and Spain have two institutions each in the top bracket. South Africa and even Egypt have one each in the above list.

Predominance of US universities and institutions is not with out reason. As a nation USA spends 3.1% of GDP annually on tertiary education. Recession and financial crisis not withstanding, academic salaries are about the highest in the world. In most of the top ranking universities, the atmosphere is cosmopolitan-all of which help in attracting and retaining the best talent. The US universities score especially on the research parameter. Several Professors take up editorship of journals and magazines; they decide what gets published. Institutions in US know how to nurture research.

IIE (Institute of International Education) promotes US higher educational institutes abroad in a big way. It held its annual U.S. Higher Education Fair series in six countries and 11 cities across Asia; the region that sends the maximum students to the United States. More than 10,000 prospective students, parents, educators and media representatives participated the fairs. Over 150 U.S. institutions took part in these fairs, getting one to one interface with a large and growing numbers of well-prepared students eager to study in the US. (IIE Annual Report 2009)

China including Hog Kong has 10 institutions in the list. China has made huge investments in recent years in it's tertiary education. At the place of 21, University of Hong Kong, is the third highest ranked university outside USA and U.K. The numbers of Chinese nationals going abroad for higher education peaked some time back and is now declining. According to the latest reports, China has emerged as one of the six preferred destination for globally mobile students.

**WHO LEADS THE RACE FOR GRANT OF PATENTS**

	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008
Filed	12613	17466	24505	28940	35218
Examined	10709	14813	11569	14119	11751
Granted	2469	1911	4320	7539	15261

Source: Indian patent office.

**PATENT APPLICATIONS**

The number of applications for patents filed in 2007-2008 was 35,218 compared to 28,940 applications in 2006-2007 representing an increase of about 22 % in the filing. 11 applications were filed as patent of addition.

The number of applications for patents which originated in India were 6,040 contributing approximately 17% of the total number of applications filed during the year.

Out of the said applications, which originated in India Maharashtra accounted for the maximum number, followed by Karnataka, Delhi, Andhra Pradesh, West Bengal and Gujarat. The State / Union Territory wise break up figure is as shown in brackets: Maharashtra (1936), Karnataka (814), Delhi (812), Andhra Pradesh (414), West Bengal (303), Gujarat (286), Uttar Pradesh (161), Kerala (123), Haryana (123), Jharkhand (85), Madhya Pradesh (50), Punjab (44), Rajasthan (36), Chandigarh (33), Uttarakhand (25), Bihar (21), Assam (16), Chattisgarh (15), Himachal Pradesh (15) etc.

It is important to note that the leading states are also leading the country in terms of better developed higher education infrastructure in relative terms, for instance, States of Maharashtra, Karnataka and Andhra Pradesh. Conversely, states which are lagging behind the 'knowledge race' are those where there is higher scope for immediate growth of higher education both in quantitative as well as qualitative terms. These are U.P., Himachal Pradesh and Madhya Pradesh.

## NO. OF PATENTS GRANTED BY U.S. STATE AND FOREIGN COUNTRY OF ORIGIN 2008

NAME OF THE COUNTRY	NO. OF PATENTS
USA	1,85,244
US-ORIGIN	92,000
FOREIGN ORIGIN	93,244
JAPAN	30,679
GERMANY	10,086
S. KOREA	8,731
TAIWAN	7,779
U.K	3,843
FRANCE	3,813
INDIA	672

Source: US Patent and Trade mark Office.

The above table clearly brings out the great global 'knowledge divide'. The USA leads the list of Patents granted in U.S. Not surprisingly, America is also the home for a large majority of inventions, discoveries and innovations. It also encourages filing of applications and granting of patents to foreigners and entities from abroad. In fact, as can be seen from the above table, the number of patents granted to those of foreign origin is higher than those of US origin. Smaller nations such as Taiwan and South Korea score over U.K. and India in terms of numbers of patents granted in US. The US. has one of the finest systems of higher education and is the biggest exporter of the same.

Perhaps, the biggest economic gain to the society at large is the innovation facilitated by higher education. Today, in a globalised world nations are ranked on the basis of patent rights that they register and enable their industries to use them profitably. With out a base of a largely public funded higher education program, it is difficult to envisage the emergence of a vigorous R & D effort.

### CONCLUSION

In conclusion, it is clear that the US and U.K. would continue to dominate the world in export of higher education in the foreseeable future. This dominance is due to better rated universities and institutes in these nations. There are several world class universities in these nations and they have been in existence for a very long period of time. Most of them have nurtured research and faculty pay is also better than any where else in the world.

There are definite shifts taking place in global students' mobility seeking avenues for higher educational services. These early trends and it takes years of hard work to establish academic and research capability. Though Asia is on the radar in this race, sadly, India, at present, is nowhere in the picture. One hopes that it would change a bit with the establishment of more Central and world class universities.

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Looking forward an appropriate consideration.

With sincere regards

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