

# Chapter 3

## Our Study

### **3.1 Introduction**

The chapter deals with international student mobility to international destinations with special reference to USA. The student mobility from India to the United States has varied in various years in respect to various fields of studies as well as the levels of studies. The international student enrolment in major countries as well as the U.S. has been discussed as comparative analysis with special reference to the U.S. and also the STEM field enrolment trends have found special mention here in this chapter.

Higher education is an export commodity, as internationalisation of higher education in 21<sup>st</sup> century knowledge economy has had a significant effect. The ripple effect of economic crisis is felt in the trade related to higher education also. Most of the developed world has been affected by recession fairly badly and the higher educational institutions in the U.S. are no exception. Many countries despite the spectra of recession, has emerged victorious in pulling overseas students due to cost advantage, job opportunities, friendly government policies. The U.S. has become more vigilant in issuing student visa as well as work visa in recent decades.

### **3.2 Objective**

The present research intends to focus on STEM student mobility intentions from India to the higher educational institutions of the United States of America. The mobility pattern is to be researched from the viewpoint of the impact of globalisation on higher education in India as well as the United States. As the U.S. is the most popular destination for the Indian scholars enrolling in the U.S. higher educational institutions, the study intends to emphasize on the U.S. STEM education and the related job market. So, analysis will be done about the trends of international migration of STEM scholars from India to the United States for pursuing studies in the U.S. institutions as a corollary of the study. The responses are obtained from the faculty employed in selected institutions of India teaching science and technology subjects. The migration and mobility intentions of the Indian students studying science, technology, engineering and mathematics (STEM) are studied thoroughly on the basis of several parameters. The objective is to find out the mobility intentions by using statistical analysis of students' behavioural issues.

This thesis highlights the growing themes from the data gained from the qualitative case study of Indian STEM student flows to United States and presents primary reflections on neoliberal globalisation, higher education strategies and international student mobility (ISM).

### 3.3 The Study Area

The research area is related to India and the United States. The higher educational institutions imparting STEM education has been selected for the research. The students who study science and technology are selected. Field surveys are conducted in selected departments of sample Indian universities, IITs in Kharagpur, New Delhi and Kanpur; IIM Kolkata, IIM New Delhi, IIM Bengaluru; IISc Bengaluru, etc. The non-participatory surveys were done by sending emails to the student union bodies of the selected institutions of the United States; such as, Massachusetts Institute of Technology, Cornell University, United States Naval Academy, Rice University etc.

The study institutions are mentioned in detail in the concluding chapter.

### 3.3 Hypotheses tested

The most popular universities or institutions in the United States where the students from India get enrolled in STEM subjects shall be taken into account. So, the key hypotheses are:

- Students studying in pure science and mathematics are more in favour of staying back in the U.S. than the students of Information Technology (IT).
- PhD students in the STEM are eager to stay back in the U.S. compared to other categories of the STEM.
- IT students studying at all levels do not want to stay back in the U.S. for better opportunities in India.
- For scientists willing to return, family considerations and giving back to motherland are important factors.
- For Indian students staying back, earning money is the most important consideration.

### 3.4 Definition of the terms

**International Higher Education:** Internationalisation of tertiary education suggests the process of integration of international, intercultural, or global dimensions, functions or delivery of tertiary education.

**Globalisation:** Globalization or Globalisation involves the free movement of capital, goods, people, services, technology as well as information. Globalisation is the action or procedure of international integration as an offshoot of some shared world views, products, ideas, and related aspects of cultural customs.

**Diaspora:** Diaspora is scattered population originating within a geographic locale. Diaspora can refer to the human migration and mobility from its original homeland.

**H1B visa:** The H-1B is known as a non-immigrant visa in the U.S. under the Immigration and Nationality Act, section 101(a) (17)(H). It allows the U.S. employers to temporarily employ foreign workers in some specialty jobs.

**Labour mobility:** Labour mobility refers to the labour movement within an economy and also between different economies. Such mobility is important in the study of economics, as it looks at how labour, as one of the key factors of production, influences growth and production.

**Brain Circulation:** Brain circulation is an alternative model. The idea of brain circulation suggests the movement of skilled labour from one country to another in search of a better job and research opportunities etc.

**Brain Drain:** Human capital flight or brain drain means the emigration of highly skilled individuals from a country. Research is not conclusive as to whether there are net benefits, "brain gain", or net costs, or "brain drain", or the flight of human capital for the sending country.

**9/11:** The September 11 attacks are referred to as 9/11, which means a series of four terrorist attacks by al-Qaeda on the United States on September 11, 2001. The attacks had killed 2,996 people and injured more than 6,000 others, resulting in \$10 billion in property and infrastructure loss.

**OECD:** The Organisation for Economic Co-operation and Development (OECD) is an intergovernmental economic organisation having 35 members, established in 1960 to stimulate economic development and world trade. It is a forum of countries for showing commitment to democracy and market economy, thus providing a platform for comparing policy experiences, seeking answers to common hurdles, identify best practices and coordinate domestic and international policies. Most OECD members are well-off economies with very high Human Development Index (HDI) and are considered as developed countries. OECD is also an official United Nations Observer.

**Student mobility:** Student mobility refers to the scope for students to work or study overseas whilst pursuing their degree programme ranging from undergraduate or postgraduate levels. Student Mobility can be incoming and outgoing as Bilateral Exchange programme or one-way Study Abroad programme.

**Remittance:** Remittance means the transfer of money by foreign workers to an individual in his or her motherland. Money sent home by competes with global aid as one of the biggest financial inflows to developing countries.

**The Financial crisis of 2007–2008:** This is also known as the global financial crisis of 2008. This is considered by many as the worst financial crisis since the 1930s known as the Great Depression.

**Ivy League Universities:** Most elite universities in the USA. These universities are labelled as the 'Ivy League'. Starting as a group within an NCAA Division I intercollegiate association, they started as eight most competitive athletic colleges within that division. The universities are Harvard (Massachusetts), Yale (Connecticut), Princeton (New Jersey), Columbia (New York), Brown (Rhode Island) Dartmouth College of New Hampshire, the University of Pennsylvania in Pennsylvania and Cornell University in New York.

**Recession:** The NBER has defined an economic recession as a significant decline in monetary activity spreading across the economy, lasting months or years, generally visible in real GDP, real income, lack of employment, industrial production, as well as wholesale-retail sales.

**Foreign Education Providers:** Foreign education providers are the foreign universities who set up their educational campus in a country other than their country of origin. The foreign institutions have to clear few parameters financially and academically before they establish education in a foreign country.

**E-learning:** E-learning theory views the cognitive science principles of efficient multimedia learning by using electronic educational technology. Online education, virtual classrooms, video conferencing come within its ambit.

**Memorandum of Understanding:** A memorandum of understanding or (MOU) is a non-binding agreement which takes place between two or more parties outlining the terms as well as details of an understanding, which includes each party's demands and responsibilities. An MOU is most often the first stage in forming a formal contract.

**Sabbatical:** Study leaves or sabbatical demands academics to produce academic works during their paid leave away from teaching and administration.

**Technology Park:** A landscaped development having high specification office space and residential and retail developments, which encourages localisation of high tech companies, e.g. information technology, software development etc., hence giving each the advantage of economies of scale.

**World University Ranking:** The Times Higher Education World University Rankings or the QS rankings list the best international universities and are the international university performance tables to judge world class universities across their core missions, e.g. teaching, research, knowledge transfer and also international outlook.

**BRIC countries:** In economics, BRIC refers to Brazil, Russia, India, and China, which are deemed to be at the same stage of newly advanced economic development. It is rendered as "the BRICs" or called as "the BRIC countries" or "the BRIC economies" or often termed as the "Big Four".

**Rashtriya Uchchattar Shiksha Abhiyan (RUSA):** It is a holistic scheme for higher education in India started in 2013 by the Ministry of Human Resource Development of the Government of India. RUSA provides strategic funding to higher institutions in India. Funding is provided by the central ministry.

**Demand and supply:** Demand refers to the quantity of a product or service as desired by buyers. The quantity demanded refers to the amount of a product people want to buy at a certain price; the relationship between price and quantity is the demand-supply relationship. Supply refers to how much the market can offer.

**R&D:** Research and development or R&D or R+D, also termed as RTD in Europe as research and technical or technological development (RTD), is used as a general term for activities in relation with corporate or governmental innovation.

**MOOC:** A massive open online course (MOOC) is free Web-based distance learning programme designed for the large segment of geographically dispersed students. The word MOOC was coined in the year 2008 by Dave Cormier for a curricula of the University of Manitoba.

**Big Science:** Big science is a term which describes a series of changes in science that occurred in industrial countries during and after World War II because scientific progress gradually came to depend on large-scale projects normally sponsored by governments or in different countries.

**Erasmus Mundus:** The Erasmus Programme or European Region Action Scheme for the Mobility of University Students is a European Union (EU) student exchange programme started in 1987. Erasmus Plus is a new programme which combines all the EU's present schemes for education, training, youth as well as sport, started in January 2014.