



Asia-Pacific Research and Training Network on Trade
Working Paper Series, No. 34, May 2007

Assessing Barriers to Trade in Education Services in Developing Asia - Pacific Countries: An Empirical Exercise

By

Ajitava Raychaudhuri*
Prabir De*

UPDATE: A revised and edited version of this paper has now been published as:

Raychaudhuri, A. and P. De, 2007 "Barriers to Trade in Higher Education Services: Empirical Evidence from Asia- Pacific Countries", *Asia-Pacific Trade and Investment Review*, Vol. 3, No. 2, pp. 67-84, (United Nations, New York).

Available online at: http://www.unescap.org/tid/publication/aptir2470_ajitava_prabir.pdf

*Ajitava Raychaudhuri and Prabir De are Professor of Economics and Coordinator, Centre for advance Studies, Jadavpur University, Kolkata and Associate Fellow, Research and Information System for Developing Countries (RIS), India, respectively. Authors are grateful to Sandip Singha Roy for his assistance in conducting the field survey at Kolkata and New Delhi. The views presented in this paper are those of authors and do not necessarily reflect the views of Jadavpur University, RIS, ARTNeT members, partners and the United Nations. This study was conducted as part of the Asia-Pacific Research and Training Network on Trade (ARTNeT) initiative. This work was carried out with the aid of a grant from the World Trade Organization (WTO). An earlier version of the paper was presented at Third ARTNeT Consultative Meeting of Policymakers and Research Institutions in Macao, November 2006. Authors are grateful to participants of the meeting, as well as to Mia Mikic and Yann Duval for their insightful comments on an earlier draft. The technical support of the United Nations Economic and Social Commission for Asia and the Pacific is gratefully acknowledged. Any remaining errors are the responsibility of the authors. The authors may be contacted at ajitaval@gmail.com and prabirde@ris.org.in.

The Asia-Pacific Research and Training Network on Trade (ARTNeT) aims at building regional trade policy and facilitation research capacity in developing countries. The ARTNeT Working Paper Series disseminates the findings of work in progress to encourage the exchange of ideas about trade issues. An objective of the series is to get the findings out quickly, even if the presentations are less than fully polished. ARTNeT working papers are available online at: www.artnetontrade.org. All material in the working papers may be freely quoted or reprinted, but acknowledgment is requested, together with a copy of the publication containing the quotation or reprint. The use of the working papers for any commercial purpose, including resale, is prohibited.

Table of Content

List of Abbreviations	1
Executive Summary	2
I. Introduction	3
II. Literature Review	9
III. Trade in Education Services and GATS: Current Profile and Future Outlook.....	15
IV. Trade in Higher Education Services in India	21
V. Measuring Barriers to Trade in Education Services :Field Survey and Estimation Results.....	35
VI. Conclusions and Future Research Agenda.....	43
Bibliography	45
Appendix 1: Questionnaire for Primary Survey	50
Appendix 2: List of Sample Institutions / Authorities Surveyed	55
Appendix 3: Panel Regression (Fixed Effect) Results	56

List of Abbreviations

ASEAN: Association of Southeast Asian Nations

BOP: Balance of Payments

ESCAP: Economic and Social Commission for Asia and the Pacific

FDI: Foreign Direct Investment

FEM: Fixed Effect Model

FTA: Free Trade Agreement

GATS: General Agreement on Trade in Services

IMF: International Monetary Fund

LDC: Least Developed Countries

MDG: Millennium Development Goal

MRA: Mutual Recognition Agreement

NTB: Non Tariff Barriers

OECD: Organization for Economic Cooperation and Development

RCA: Revealed Comparative Advantage

REM: Random Effect Model

RTA: Regional Trade Agreements

SAARC: South Asian Association of Regional Cooperation

UNCTAD: United Nations Conference on Trade and Development

UNESCO: United Nations Educational, Scientific and Cultural Organisation

WTO: World Trade Organisation

Executive Summary

During the last decade, the services sector has seen modest liberalization on account of removal of trade and investment barriers. Most of the WTO members are committed to multilateral liberalization in services trade. However, within trade in services sector, the liberalization of education services has seen little progress. Education services sector liberalization exerts an economy-wide influence as they constitute strong inputs to all other economic activities, including trade. Some earlier studies identified several challenges related to the implementation of GATS commitments. But, very few attempted to quantify barriers to trade in education services and its characters. There is a dearth of analytical research in estimating barriers to trade in education services, particularly in the context of developing countries and LDCs.

Under the aforesaid backdrop, the present study highlights the issues surrounding the trade in education services. The first part of the study concentrates on the examples from India about ease and difficulty of trade in education services through different modes. It clearly shows that the process of trade in education services through Modes 3 and 4 have just begun in India. Mode 2 is still the most prevalent mode of trade in education services for the developing ESCAP countries. The second part of the study is based on a small primary survey among some leading Indian higher education services providers in Mode 2. The survey reveals the cost advantage of Indian institutions, compared to developed countries. However, at the same time, it highlights some barriers to movement of foreign students in India in terms of seat limitation, problem of course equivalence, supporting infrastructural problems like lack of international hostels, poor quality of transportation, etc. along with lack of English or local language training facilities. Along with this, this study deals with a Panel regression analysis on movement of Asian students under Mode 2 to some of the most favoured destinations in Europe and United States. The study finds quite expectedly that more wealthy nations attract more students, whereas higher college enrolment gives a positive signal to a prospective overseas student. However, higher cost of living acts as a negative element in this movement of students for studying abroad. Nevertheless, this study shows that country specific barriers do exist and they are equally important in influencing movement of students across border, which are not necessarily quantifiable.

The study, thus, touches only tip of an iceberg in terms of its analytical power to explain movement of students across nations. It points out to the definite existence of country specific barriers and from a pilot case study in India, highlights some of these possible barriers. However, future studies should be attempted to understand the extent of barriers to trade in education services through more intensive primary survey and bilateral country studies.

I. Introduction

During the last decade, the services sector has seen modest liberalization on account of removal of trade and investment barriers. Most of the WTO members are committed to multilateral liberalization in services trade. They have committed themselves to the rules and principles of the GATS where Article V of GATS permits the liberalizing of trade in services between or among the parties to an economic integration agreement. Realizing this, trade in education services¹, which include primary, secondary, higher secondary and adult education services, as well as specialized training such as for sports, are included in the new services negotiations, resumed in January 2000 under Article XIX of GATS.² However, within trade in services sector, the liberalization of education services has seen little progress. Education services seem to be the least committed sector in WTO. As of August 2006, 48 countries³ had made a commitment to the education sector in WTO. Within the education services, the rapid changes are most spectacular in the area of higher education, which normally refers to post-secondary education at sub-degree and university degree levels. As a consequence, 39 countries till August 2006 had made a commitment under the WTO to liberalize access to the higher education services.

Countries across the world witness a spectacular growth in higher education over the past few decades. Today, about 132 million students have enrolled in higher education, which was a mere 13 million in 1960.⁴ Along with the enrolment, at the same time, there is a sharp rise in movement of international students across countries. The demand for international education is likely to increase from 1.8 million international students in 2000 to 7.2 million international students in 2025.⁵ According to Knight (2006), a fascinating but very complex world of cross-border education is emerging and the last five years have been a hotbed of innovation and new developments. Some of these interesting developments in trade in education services in recent years are captured in Box 1. These new developments, in one hand, provide enormous opportunities in services trade, and, also generate several challenges, on the other.

Given that the education services are traded predominantly through student mobility across borders (consumption abroad), nonetheless, a host of problems persist particularly in developing countries and LDCs in opening up their education services, in raising their standards of education services, in recognizing each others' standards (MRAs), and in removing the barriers to trade in education services (OECD, 2004; Knight, 2006; UNESCO-OECD, 2005). It is important to bear in mind that cross-country

¹ In recent literature (e.g. UNESCO-OECD, 2005; Knight, 2006), trade in education services is also termed as cross-border education, which refers to the movement of people, programs, providers, knowledge, ideas, projects and services across national boundaries. The term is often used interchangeably with “transnational education,” “offshore education” and “borderless education”.

² See, Services Gateway, WTO (www.wto.org).

³ The European Union (EU) is counted as one country.

⁴ Data source is UNESCO (www.unesco.org).

⁵ According to Bohm *et. al* (2004).

disparities in education services may not only reflect different policy priorities, but also a variety of economic, social and demographic factors.

Box 1: Recent Developments in Trade in Education Services

- In terms of student numbers, Phoenix University has become the largest private university in the U.S. (owned and operated by the Apollo Group company) and is now present or delivering courses in Puerto Rico, Netherlands, Mexico and Canada. Other Apollo companies are offering courses in Brazil, India and China.
- The Netherlands Business School (Universitiet Nijenrode) has recently opened a branch campus in Nigeria.
- Harvard is developing two branch campus initiatives in Cyprus and the United Arab Emirates.
- Jinan University will be the first Chinese university to open a branch campus outside China when it does so in Thailand.
- Laureate Education (formerly Sylvan Learning Systems) has purchased whole or part of private higher education institutions in Chile, Mexico, Panama and Costa Rica and owns universities in Spain, Switzerland and France.
- Dubai has developed a “Knowledge Village” in the Dubai Technology and Media Free Zone.
- The London School of Economics, India’s Manipal University (previously known as Manipal Academy of Higher Education) and the University of Wollongong from Australia are offering courses through franchising agreements and branch campuses.
- The University of Westminster (UK) is the key foreign academic partner in the new private Kingdom University of Bahrain and plays a similar advisory/provision role with new institutions in Nigeria, Uzbekistan and Kazakhstan.
- As of June 2003, Hong Kong, China, had 858 degree level programs from 11 different countries operating, and Singapore had 522 degree level programs from 12 foreign countries.
- In 2002, Australia, one of the lead exporters of education, had 97,000 students enrolled in 1,569 cross-border programs.

Source: Knight (2006)

Education services sector liberalization exerts an economy-wide influence as they constitute strong inputs to all other economic activities, including trade. Some studies identified several challenges related to the implementation of GATS commitments in education sectors.⁶ But, very few attempted to quantify barriers to trade in education services and its characters. There is a dearth of analytical research in estimating barriers to trade in education services, particularly in context of developing countries and LDCs.

Shape of the Study

This study discusses examples across developing ESCAP countries and on trade in education services sector in general, and barriers to trade in education services in particular. It includes exports via all four Modes of supply for trade in education services outlined in the GATS:

⁶ This has been extensively discussed in Section 2 of this study.

- Cross-border trade (Mode 1), where the service itself crosses the border but consumer and provider do not move (e.g., an Indian University opens virtual education institution).
- Consumption abroad (Mode 2), where the consumer travels to the country where the service is supplied (e.g., an Indian student is going to United States to study).
- Commercial presence (Mode 3), where the service provider establishes a commercial presence abroad (e.g., an American University opens a branch in India).
- Movement of natural persons (Mode 4), where the provider of the service moves temporarily to the territory of another country to supply a service (e.g., an American professor goes to India for few months to take classes at an Indian university).

In present context, Mode 2 is viewed as the prime mode of exports of education services whereas Mode 4 exports also share a high proportion of trade in education services (WTO, 2001). It should be recalled, however, that modes of supply were developed for making GATS commitments and they are not concepts generally used by the education services providers. Service providers do not separately identify their activities by GATS Modes of supply, and many countries export services via several Modes simultaneously. With the exception of some sectors where the distinctions are relatively clear (e.g., health services), this study does not attempt to attribute Modes of supply to specific examples of education services exports. In general, we here attempt to identify some important barriers to trade in education services in selected developing ESCAP countries.

Purpose of the Study

A study exclusively focusing on education services trade barriers will not only strengthen overall services trade capacity of developing and LDCs but will also promote global as well as regional trade in services. Ideally, effective education service liberalisation requires improved quality of services and reduced costs among and within countries. Therefore, studies must consider barriers relating to both internal and external environment while framing any international policy. There is also an in-built need to look into the subject in a wider context of regional trade initiatives when most of the prominent RTAs in ESCAP region are planning to include services trade in FTA process.

Apparently, ESCAP economies have limited intra-regional trade in education services. According to OECD (2004), Europe is the largest recipient of international students whereas Asia is the largest emitting region. The trade in education services is directly associated with language, culture and also to some extent ethnicity and religion. These types of asymmetries across the countries pose a continuous threat to trade in education services. In view of technological change, there is an important need to measure the market size and also the barriers to education services trade in developing countries and LDCs members of ESCAP.

Research Question(s), Scope of Study, Study Outline

The main purpose of the study is aimed at assessing barriers to trade in education services (and assess their costs as far as possible) for selected ESCAP countries. This study highlights both the explicit and implicit barriers and also provides the ways forward to eliminate such barriers. Broadly, this study attempts to discuss following issues, which existing literature on the quantification of the potential benefits to developing countries of education services trade liberalization has raised.

- The first is the representation of and measurement of barriers to education services trade in selected ESCAP countries (including LDCs), with particular emphasis on India, and the associated issue of measuring the size of education services trade itself.
- The second is the interpretation of results from existing model based literature seeking to quantify the impacts of trade liberalization in education services. Most of what is available involves numerical simulation exercises using (typically global) general equilibrium models based on conventional models of trade liberalization in goods. The size of barriers to education services trade, how they change under liberalization, elasticities, and the size of education service trade flows, along with relative country size (in the context of ESCAP) and any differences in market structure then singly or jointly determines results.
- Given that the bulk of trade in the sector takes place through consumption abroad (Mode 2), an attempt is made to assess the impact of measures restricting the mobility of students.
- This study also undertakes a primary survey to measure the presence of foreign students in Indian institutions and possible barriers they might face.

Methodology and Data

Methodological discourse towards assessing barriers to trade in education services follows a wide spectrum of studies on the services trade sector. To capture the intensity of the barriers, econometric model was followed. In order to judge the relative strengths of the education service providers, a primary survey on selected service providers in study region was also carried out.

The study is based on mostly secondary data analysis. In order to assess the barriers to trade in services in context of India, we have carried a primary survey, which is basically a pilot survey to assess the responses of educational administrators to the issue of barriers. Time-series individual and bilateral data on trade in education services are not available for most of the countries, whereas national data sources are not always compatible. Specifically, we have tried to use IMF's *Balance of Payment Statistics* (IMF, 2006) to find out the sector-wise performance of selected developing countries in services trade including trade in education services.⁷ Since the IMF statistics do not provide

⁷ More generally, it should be noted that trade in services statistics are likely to under-estimate trade in services. Moreover, trade in services between developing countries is more difficult to estimate. To date, the available bilateral data on such trade is scant and does not allow for satisfactory reports on those flows. The discrepancy in the data suggests that services are not only difficult to trade but that, more importantly,

separate quantitative information for different modes of trade in educational services, we have taken the UNESCO statistical database for internationally mobile students to undertake some econometric exercises. The other major secondary sources of data are OECD, UNCTAD, World Bank, and WTO. On India, the services trade data were collected from the Reserve Bank of India. Since collection and tabulation of data on trade in education services are not a priority for either national or international agencies, one really faces tremendous problems in data collection in the field of trade in education services in cross-country framework.

Box 2: Inconsistency in Service Trade Statistics

Every developing country has successful service exporters. However, these success stories are not always reflected in traditional economic analysis. Due to absence of improved quantitative information on trade in services, developing countries are not fully aware of the capabilities that exist. Compared to statistics on trade in goods, the available data for trade in services is not well organised. The shortcomings are the limited country coverage, insufficient breakdown by individual service sectors, and absence of data recorded according to GATS four Modes of supply. Balance of Payment (BOP) statistics provide proxies for the following Modes of supply.

- Cross border supply (GATS Mode 1) is recorded for service transactions in transport, communications, insurance and financial services,
- Consumption abroad (GATS Mode 2) is mainly covered by data on travel,
- Commercial presence (GATS Mode 3) is best captured by data foreign affiliate trade in services statistics, which are, however, available only for some selected countries,
- Presence of natural persons (GATS Mode 4) is partly covered by BOP statistics concerning compensation of employees and workers' remittances.

This still imperfect statistical coverage means that currently available statistics on trade in services probably underestimate actual trade in services.

Source: OECD (2004)

Policy Relevance

The study is aimed at generating trade-related policy recommendations to support the development of the region, and also contributes to trade research capacity building in ESCAP. Findings of this study is expected to help ESCAP members to (i) enhance cooperation in education services in order to improve the efficiency and competitiveness,

under current statistical concepts and methodologies, services trade flows are unlikely to be captured fully. Indeed, many statistics for trade in services are drawn from balance of payments (BOP) data, which has a number of limitations in measuring trade in services from a GATS perspective. Not all service sectors are captured and most figures tend to represent trade via Modes 1 and 2 only — BOP figures do not capture trade via Mode 3 and provide only rough proxies for Mode 4 (OECD, 2005). Mode 3 trade is better captured by Foreign Affiliate Trade in Services figures, but these are only collected by a minority of countries (about 20 so far). Proxies for Mode 4 in BOPs - compensation of employees and workers' remittances - are only very approximate and can both under- and over-estimate Mode 4 (e.g., they include persons working in sectors beyond services). Box 2 captures briefly the data discrepancy in world trade in services.

diversify capacity and supply and distribution of education services of their service suppliers within and outside ESCAP; (ii) eliminate substantially restrictions to trade in education services; and (iii) liberalise trade in education services by expanding the depth and scope of liberalisation beyond those undertaken by Member States under the GATS (or under RTAs) with the aim to integrate trade in education services in multilateral and regional process.

II. Literature Review

The crucial role of education in fostering economic growth, personal and social development, as well as reducing inequality is well recognized. Countries seek to ensure that their populations are well equipped to contribute to, and participate in, the process of social and economic development. Education enables them to face the challenges of technological change and global commercial integration. Through its capacity to provide skills and enable effective participation in the work force, education is crucial to economic adjustment. A direct relationship between the level of education and vulnerability to unemployment has been identified in many countries. Many studies have also identified inequality in education and skills as a core factor in the labour market. Not only are jobs being restructured and moved away from lower-skilled positions, workers with a lower level of education have also seen their real incomes decline, while those with a higher level of education have maintained or improved their income position.

Evidence confirms that expanding economic opportunities for people living in developing and LDCs raises their incomes. The key to expanding their economic opportunities is to help them build up their assets. Human capabilities such as health and education are of intrinsic value and also have powerful effects on material well-being. Broad access to such facilities is also important to the material prospects of the people. And the trade in education services can reduce their vulnerabilities. Therefore, challenges for the governments in developing countries and LDCs are to achieve gender equality education – national commitment, and to recognize each others standards – international commitment.

In case of national commitment, the prospects for achieving gender equality in education vary considerably between educational levels and regions. There has been more progress in gender equality in primary school enrolments than in secondary and tertiary enrolments (World Bank, 2005). Still, more than a third of developing countries will not achieve gender parity in primary school enrolments this year, and most of them risk not meeting the Millennium Development Goal (MDG) in 2015 if they do not take immediate action to increase girls' school attendance. The risk is greatest for Sub-Saharan Africa and South Asia, the regions reporting the slowest progress in closing the gender gap in primary schooling.

In case of global commitment, progress toward mutual recognition of education services differs across countries and income groups. While developed countries were successful in recognising each others educational services, the problem get more acute in case of developing and LDCs where progress has been very limited. Specifically, a strong asymmetry persists in terms of standards and contents of the education services across the countries and regions. In addition, changes in the domestic and international market structures have promoted the appearance of activities closely related to education services. These new activities are designed to support educational processes or systems without being 'instructional activities' per se. Examples of these activities are educational testing services, student exchange programme services and study abroad facilitation services. In some countries, these activities are considered to constitute education services. Given the

pace of change in the sector, definitional issues have also appeared as an important issue in any in many countries.

Education also exists as a 'private consumption' item with a price determined freely by the providing institutions. Private sector expenditure on educational institutions reveals significant variations among OECD countries, ranging from 2 percent or below of total expenditure on education in Portugal, Sweden and Turkey, to over 22 percent in Germany, Japan, Korea and the United States (WTO, 2001). Private sector expenditure is particularly significant at the tertiary level of education amounting, for instance, to over half of total private expenditure on education in Japan, Korea and the United States.

Education services have become one of the single largest services sector, in terms of shares in GDP and employment, in many economies worldwide. It not only provides the bulk of employment and income in many countries, but it also serves as vital input for producing other goods and services. So an efficient education services sector is crucial for the overall economy. And because of this, opening up education services market is crucial to the success of globalisation.

Such market opening will bring gains to all economies, including the developing world, as long as it is done in a carefully considered way (WTO, 2001). But opening up education services markets is a particularly complex challenge. For one thing, any discussion of trade in education services has to include the thorny question of in- and out-migration issues. For example, whether qualified teachers can freely move to another country to teach.

Education services are traded predominantly through student mobility across borders (consumption abroad). The rising competition for foreign students, due not only to economic but also cultural policy reasons, has been accompanied by initiatives in the marketing of higher education institutions. Such initiatives, sponsored by governments, universities, or private firms, consist of dissemination of information on the institutions and recruiting students. For example, the so-called 'education fairs' are one of the most common mechanisms used by governments and institutions, either directly or through education marketing agencies (Rudner, 1997).

In addition, a more recent form in which education services are traded consists of the setting up of facilities abroad by education providers (commercial presence). Although there are no figures available, the literature suggests an increase in the presence of foreign suppliers in some countries driven by a variety of reasons. For instance, in an effort to enhance domestic capabilities in higher education as well as reduce foreign exchange costs derived from outflows of students, several Asia Pacific countries are allowing foreign universities to establish 'local branch campuses' or 'subsidiaries' - e.g. MIT (USA) has established a locally-financed subsidiary of its Faculty of Engineering in Malaysia and also in Singapore. In India, an estimate in 2004 puts foreign affiliates at about 100 (Bhushan, 2004). This type of trade is also taking place through partnership arrangements; for example, Indian Institute of Management (Ahmedabad

branch) from India is planning to enter into the ASEAN market through local partnership, among others.

Other types of institutional arrangements include so-called 'twinning arrangements'. They are relatively frequent in Southeast Asia and consist of domestic private colleges offering courses leading to degrees at overseas universities. Institutions with twinning arrangements have adopted the programme design of the 'partner' abroad to validate the 'in-country' courses, validating also the instructional methods and examination standards. Thus, 'twinning arrangements' have led to 'franchising' of individual components of the activity, e.g. courses and programmes. An example of this type of transaction is the franchising of art and design courses by London Institute (UK) to Colej Bandar Utama in Malaysia.

In case of India, cross-border informal trade plays a very important role in the case of services. High transaction costs in terms of waiting time and procedural formalities still drive many exporters to go underground. In case of Bangladesh, one of the few but influential studies by Rahman (2000) clearly puts the informal trade in education and health services at a very high proportion, and many of them are in fact trade through the informal ways.

Possibly due to the fact that international trade in the sector focuses on the mobility of students, no comprehensive information on the movement of scholars (presence of natural persons) is adequately available. A similar lack of information exists in relation to cross-border supply of education services. As noted above, ample demand for higher education, triggered by the needs of the labour market, and the emergence of new technologies are rapidly expanding the market share of distance learning (Czinkota, 2005). Such an expansion is likely to have a growing international component, but its potential for changing the current patterns of trade in the sector is difficult to assess at this stage.

Current information on barriers to flows of education services trade is very limited. However, a good number of studies on barriers to services trade in general have been done over last few years. One group of studies have measured the quantity impacts from various restrictions by econometric models. Another group has estimated price differentials for domestic and foreign services providers across national markets. Yet another is frequency data showing how often regulatory measures are used in particular service segments in particular countries (see, Hoekman, 1995; Hoekman and Primo Braga, 2001). Tax equivalents are used in some of the literature to capture associated barriers to FDI flows which might otherwise accompany freer service trade flows (see, Dee and Hanslow, 2000). There are several studies carried out seeking to quantify the impacts of trade liberalization in services (for example, Robinson *et al*, 1999; Dee and Hanslow, 2000; Brown, Deardorff and Stern, 2002). Most of what is available involves numerical simulation exercises using (typically global) general equilibrium models based on conventional models of trade liberalization in goods (see, for example, Whalley, 1985, 2000). In these exercises, producer services are typically identified as an input into intermediate production and barriers to service trade are represented in the form of ad

valorem tariff like restrictions. These can be in tax equivalent (for FDI flows) or tariff equivalent (for service flows) form. Nevertheless, due to lack of information on cross-country trade in education services, we have not come across any concrete study with clear focus to quantify the costs of barriers to trade in education services.

Restrictions on trade in services are usually measured using an index, i.e. a system of scores and weights that converts qualitative information into quantitative measures based on the number and severity of restrictions. Joint work by the Australian Productivity Commission and Australian National University developed frequency measures for six service industries: telecoms (Warren, 2000), maritime transport (McGuire and Schuele, 2001), education (Kemp, 2000), distribution (Kalirajan, 2000) and professional services (Nguyen, 2000). Their trade restrictiveness indices use information on restrictions for services sectors collected from a variety of sources including a number of international organisations and national trade agencies. Like Hardin and Holmes, this joint work represents an improvement on Hoekman's methodology, the major limitation of which was its reliance just on GATS schedules, which are very incomplete listings of services trade barriers. However, the extent of the information on restrictions collected and the sophistication of the index developed by the Australian Productivity Commission and Australian National University varies from sector to sector. Other methods developed for specific sectors include: Marko (1998) on telecom services, Claessens and Glaessner (1998) and Mattoo (1998) on financial services, and Colecchia (2001) on professional services. Kalirajan (2000) provides an index for distribution services for 38 economies from the Asia-Pacific, Europe and American regions. McGuire and Schuele (2001) quantify the extent and nature of restrictions on maritime services for 35 economies worldwide. Nguyen (2000) calculates a restrictiveness index for 34 economies in the Asia-Pacific, European and American regions for trade in professional services. Warren (2001) also uses a restrictiveness index to estimate barriers to trade in telecommunications services among 136 countries worldwide.

As it is clear from the foregoing review that much of effort has gone into how service liberalization will reduce the price of services and thereby increase the gains from such liberalization, whereas, little attention has been paid to the non-price factors influencing services export performance.⁸ The non-price factors like quality of services plays a pivotal role in determining the bilateral trade in services. The study by Rahman (2000), which deals with bilateral trade in educational and health services between India and Bangladesh emphasizes on the importance of quality of services in these sectors. This study based on field survey concludes that though there are other considerations like relative cost differential but primarily it is the difference in quality and satisfaction of services seekers which has increased the trade of these services between India and

⁸ In a study by Raychaudhuri, *et al.* (2003) estimates the trade potential of South Asian economies (comprising India, Sri Lanka, and Bangladesh) after creating a 'baseline' of export values by netting transport costs from import values. The study, further, analyses the role of non-price factors, like quality, infrastructure development and environmental standards on the export performance of these South Asian economies. The study finds that the non-price factors are equally important as price variables and has significant impact on growth of export from these South Asian economies.

Bangladesh. It also highlights the issue of magnitude of these two services trade being underreported as large amount of illegal trade is taking place between these countries to avoid the hassles of administrative requirements. Therefore, exact amount of trade does not get reflected. The study estimates that about US\$ 100 million paid by the nationals of Bangladesh on account of import of these two services.

A number of services sector are getting internationalized: education services is one of them. Foreign services (education) providers are allowed to participate in the education sector in developing countries in similar fashion as they are in the developed countries. In some developing countries (for example, Singapore and Malaysia) it was found in the initial period of opening of education sector that through improved functioning of domestic education services providers due to increased competition from liberalization of the sector the overall welfare implication for domestic economy is positive, although it reduces the profits of domestic education services providers in the private sector to some extent.

Towards this vein, education services therefore have generated research interest recently. The gains from its liberalization are being estimated, though such studies are marred by lack of availability of reliable data. Larsen, Martin and Morris (2002) in their study estimated the education services in OECD countries to about US\$ 30 billion in 1999, which is 3 percent of their total export service trade. The study deliberates on the importance of the education services and how improvement in technology (e-learning) has a major impact on trade in education services. It further emphasizes on meeting quality standards by international service suppliers of education services. Therefore, trade in education services needs to be recognized and its potential should not be underestimated.

As for any other services so also for the education services ensuring quality of service is of prime importance for a service supplier to sustain as an international service supplier. A study by Dessus (2001) finds that differences in quality of educational systems are due to differences in the educational infrastructure, the initial endowment of human capital, and ability to distribute these education services. These differences in education services have differential impact on the creation of human capital. Dessus (2001) argues that keeping the expenditure at the existing level, and giving priority to primary education for a larger section of the society will promote growth rather than giving secondary education to a selected few.

Kemp (2000) perhaps the first one who attempted to estimate barriers to trade in education services in cross-country framework. Similarly to Hoekman (1995), the GATS schedules are the data source used to identify and measure the extent of trade and investment restrictions. It innovates however because its indices are calculated by taking the weighted average of scores associated with five identified subsectors of education in the four Modes of supply and two categories of limitations (market access and national treatment). Two indices are proposed, which differ from each other in the scoring method. While according to the first scoring system, sectors unscheduled in the GATS are treated as being fully restricted and given a score of 1 (fully restricted), according to the second

scoring system, sectors unscheduled in the GATS are treated as being unrestricted and given a score of 0 (no restrictions). Accordingly, results between the two indices are quite different. In the first case, education is found to be relatively protected, with most countries scoring higher than 0.5 and only one country (Lesotho) lower than 0.3. In the other case, education is found to be relatively unrestricted with only one country (Japan) receiving a score higher than 0.5 and 21 countries receiving a score below 0.3. According to both indices, no noticeable differences exist between developing and developed countries taken as distinct groups.

The difference in the results obtained by Kemp (2000) underlines the difficulty of assessing existing barriers on the basis of GATS commitments and the two sets of scores obtained should be considered as upper and lower bound for estimates. Markets may be open even in the absence of commitments, and any commitments made may also not reflect the existing level of market openness, including due to unilateral liberalisation undertaken since the Uruguay Round. While the evidence suggests that international trade in some education services is growing, this is not always reflected in countries' GATS commitments. An initial scan of commitments by WTO members known to be involved in trade in post-secondary education services suggests that it is probably not accurate to assume that the absence of commitments indicates a closed market; however, the reverse assumption (that unscheduled sectors are completely open) is likely to over-estimate the extent of actual market openness (OECD, 2004).

III. Trade in Education Services and GATS: Current Profile and Future Outlook

The crucial role of education in fostering country's economic growth as well as reducing inequality is well recognised. In the services sectoral classification of WTO, education services is categorised in five components: (i) primary education services, (ii) secondary education services, (iii) higher education services, (iv) adult education services, and (v) others. There are several ways aforesaid education services move across border through education service providers. According to Knight (2006), franchising, twinning, double/joint degrees and various articulation models are the more popular methods of cross-border program mobility (see, Box 3). There are different forms of cross-border provider mobility (see, Box 4) as well.

Box 3: How Do Education Services Move Across Borders?

- **Franchise:** This is an arrangement whereby a provider in source Country A authorizes a provider in Country B to deliver course/program/service in Country B or other countries. The qualification is awarded by the provider in Country A. Arrangements for teaching, management, assessment, profit-sharing and awarding of credit/qualification are customized for each franchise arrangement and must comply with national regulations in Country B.
- **Twinning:** In a twinning situation, a provider in source Country A collaborates with a provider in Country B to develop an articulation system that allows students to take course credits in Country B and/or in source Country A. Only one qualification is awarded by the provider in source Country A. Arrangements for twinning programs and awarding of degrees usually comply with national regulations of the provider in source Country A.
- **Double/joint degree:** This is an arrangement where providers in different countries collaborate to offer a program for which a student receives a qualification from each provider or a joint award from the collaborating partners. Arrangements for program provision and criteria for awarding the qualifications are customized for each collaborative initiative in accordance with national regulations in each country.
- **Articulation:** Various types of articulation arrangements between providers situated in different countries permit students to gain credit for courses/programs offered by all of the collaborating providers. This allows students to gain credit for work done with a provider other than the provider awarding the qualification.
- **Validation:** Validation arrangements between providers in different countries allow Provider B in the receiving country to award the qualification of Provider A in the source country. In some cases, the source country provider may not offer these courses or awards itself, which may raise questions about quality.
- **Virtual/distance:** This is an arrangement where a provider delivers courses or a program to students in different countries through distance and online modes. It may include some face-to-face support for students through domestic study or support centres.

Source: Knight (2006)

Box 4: How Do Education Service Providers Move Across Borders?

- **Branch campus:** A provider in Country A establishes a satellite campus in Country B to deliver courses and programs to students in Country B (Country A students may also take a semester or courses abroad). The qualification awarded is from the provider in Country A.
- **Independent institution:** Foreign Provider A (a traditional university, a commercial company or alliance/network) establishes in Country B a stand-alone higher education institution to offer courses/programs and awards. There is usually no “home institution” in Country A and it is therefore independent.
- **Acquisition/merger:** Foreign Provider A purchases part of or 100 percent of the local higher education institution in Country B.
- **Study centre/teaching site:** Foreign Provider A establishes study centres in Country B to support students taking their courses/programs. Study centres can be operated independently or in collaboration with local providers in Country B.
- **Affiliation/networks:** Different types of “public and private,” “traditional and new,” “local and foreign” providers collaborate through innovative types of partnerships to establish networks and institutions to deliver courses and programs in local and foreign countries through distance or face-to-face modes.
- **Virtual university:** Provider A delivers credit courses and degree programs to students in different countries through distance education, using predominantly the Internet technology mode, generally without face-to-face support services for students.

Source: Knight (2006)

The worldwide market for education services is rising faster than the growth rates observed over the previous decades when the market for education services was relatively closed (OECD, 2002a, 2002b; OECD-CERI, 2002a, 2002b). This growth is driven by a range of factors, including the greater demand for linguistic skills and understanding of other countries as the ‘knowledge-based economy’ expands. In general, the education services are mostly traded through student mobility across borders (Mode 2, consumption abroad). Almost two and half million students worldwide are involved in formal education outside their own country (UNESCO, 2005). The global market for foreign students is estimated at US\$ 30 billion, which represents roughly 3 percent of the international trade in services in OECD countries.⁹ As on 2000, United States, United Kingdom and Australia were the top three exporters of education services in value terms, whereas United States, Italy and Canada were the top three importers in terms of imports value of education services (Table 1).

In Latin America, a number of countries have a long established tradition of providing tuition to foreign students. Argentina is capitalising on the fall of its currency exchange rate in the aftermath of the financial crisis to offer its high international standards of teaching at competitive price levels (UNESCO, 2005). In Africa, Uganda, South Africa and Kenya are endowed with post-secondary institutions where a number of regional business and political leaders have been trained (UNESCO, 2005). In addition to traditional award-based university education services, there has been a strong

⁹ Source is OECD (2004), based on www.sitrends.org.

international growth in other forms of education and training, with training related to IT a particularly strong area of growth.

Table 1: Trade in Education Services by Selected Countries in 2000

Country	Exports	Imports	Trade Balance
	(US\$ million)		
United States	10280	2150	8130
United Kingdom	3758	150	3608
Australia	2155	356	1799
Italy	1170	849	321
Canada	796	602	194
Greece	80	211	-131
Venezuela	60	113	-53
Mexico	29	53	-24
Brazil	4	78	-74

Source: OECD - CERI (2002a)

Movement of students for undergraduate and postgraduate education takes place between countries at all levels of development: between developed countries, from developing to developed countries and vice-versa and also among developing countries. According to an APEC survey, the Asian region is the major source of students (46 percent), with North America and Europe being important destinations.¹⁰ However, Singapore, in recent years, is fast becoming the destination of world education. As of 2005, about 72,000 international students were studied in Singapore, which were about 50,000 in 2002. The country is planning to accommodate as much as 150,000 international students by 2015.¹¹ Till March 2006, 16 foreign universities have opened branches in Singapore, among which Cornell University, Duke University, INSEAD, University of Chicago are notable ones.

While most of the international trade in higher education services takes place among OECD countries (which received 85 percent of the world's foreign students). Some developing countries are establishing a strong presence in the market. While mostly aimed at attracting offering students to study in their home country, some developing country institutions, for example from China, India, and South Africa, are themselves looking to expand abroad.

Among developing ESCAP countries, Malaysia is one of the leading exporters of education. In 2000, about 26,000 foreign students from nearly 100 countries including Indonesia, China, India, West Asia and Africa studied in Malaysia. Towards this direction, Monash University (Australia), Massachusetts Institute of Technology (US) are some notable foreign universities have set-up branches at Malaysia in recent period. In 2003, India attracted as many as 3900 foreign students in higher education (Government of India, 2005). Similarly, Thailand, where education is considered a key service sectors for export, has placed great efforts in advertising its universities internationally as

¹⁰ Quoted in OECD (2004).

¹¹ Taken from Singapore Economic Development Board (www.sedb.com).

providing quality programs in many specialised fields including: engineering, agriculture, public health, humanities, the liberal arts, forestry, science, business administration, and the hospitality industry.¹² Twinning programs exist with foreign universities from the UK, US and Australia, enabling students to take degrees accredited by ESCAP countries in a lower-costs environment.¹³

Table 2: Future Outlook of International Higher Education Students: Top Five Source Countries

Country	No. of Students					Growth Rate (%)
	2000	2005 [#]	2010*	2020*	2025*	
China	218,437	437,109	760,103	1,937,129	2,973,287	11.0
Korea	81,370	96,681	114,269	155,737	172,671	3.1
India	76,908	141,691	271,193	502,237	629,080	8.8
Japan	66,097	65,872	68,544	71,974	73,665	0.4
Greece	60,486	68,285	75,339	84,608	89,903	1.6

Notes: #Estimated. *Forecast

Source: Bohm *et al* (2004)

The demand for education services is highly income-elastic. As developing countries become richer, international students from developing countries like China and India will be growing much faster than that of developed countries. As shown in Table 2, most of the international students for higher education in future will be sourced from China, India, and Korea, which, in other words, indicates that ESCAP region will continue to be the leading source of higher education services in the world.

Therefore, what emerges is that the Mode 2, consumption abroad (i.e., students moving abroad to study) is currently the most frequently used Mode by which education services are traded, followed by Mode 4 (movement of natural persons), and Mode 3, commercial presence (e.g., universities setting up branch campuses in other countries). However, new information technologies are changing the landscape of world trade in education. These new technologies are making possible the delivery of content in audio and visual formats inexpensively which has led to a surge in Mode 1, cross border education supply in electronic format. In the US, the electronic learning market is already worth over US percent 8 billion and has been growing at an average of 98 percent over the past five years (OECD, 2004). Although most of the e-learning customers remain US residents, the potential for world e-learning is huge given that the costs of delivering e-learning services through the internet is about the same for a closely located US resident and for an Indian resident in Bangalore once the information technology infrastructure is in place. The expanded use of all kinds of interactive and distance learning, often combined with increased international supply of education and training services offer enormous potentials.

¹² Source: www.exporter.thaitrade.com .

¹³ Quoted in Chapter 10, WTO (2001).

Table 3: List of Barriers to Trade in Higher Education Services

Mode	Barriers	Barrier Types
Mode 1: Cross-border supply	<ul style="list-style-type: none"> • Restriction on import of electronically produced educational material • Restriction on electronic transmission of course material • Non-recognition of degrees obtained through distance mode 	Invisible
Mode 2: Consumption abroad	<ul style="list-style-type: none"> • Restriction on travel abroad based on discipline or area of study • Foreign exchange control (limitations) 	Invisible
Mode 3: Commercial presence	<ul style="list-style-type: none"> • Insistence on a local partner • Insistence that the provider be accredited in the home country • Insistence on partner/collaborator being from the formal academic stream • Insistence on equal academic participation by foreign and local partner • Disapproval of franchise operations • Restrictions on certain disciplines/areas/ programs that are deemed to be against national interests • Limitations on foreign direct investment by education providers • Difficulty in approval of joint ventures 	Invisible
Mode 4: Presence of natural persons	<ul style="list-style-type: none"> • Visa and entry restrictions • Restriction on basis of quota for countries and disciplines • Nationality or residence requirements, language • Restriction on repatriation of earnings 	Invisible

Source: Knight (2006)

Barriers to Trade

A number of barriers are specific to higher education services, and most of them can be termed as “soft” or “invisible” barriers. Table 3 highlights some barriers relating to Mode-wise trade in education services. It appears that Mode 3 (commercial presence) attracts most number of barriers at present, compared to trade in other Modes. However, given that the bulk of trade in education services takes place through Mode 2 (consumption abroad), measures restricting the mobility of students may warrant particular attention. In order to minimise the barriers to trade in education services, the role of WTO is certainly challenging. Therefore, member countries of WTO should be more committed for the removal of these barriers seeking to increase their market access.

GATS Commitments

Education is the least committed sector in GATS. The number of commitments on the different education sub-sectors is relatively slow. As shown in Table 4, as of August

2006, there were total 168 commitments by 48 countries¹⁴ in education sector in following order: 33 commitments were in primary education, 37 in secondary education, 39 in higher education, and 37 in adult education. Higher education is the sub-sector which has attracted highest commitments in the education services; 39 countries had made a commitment to liberalize access to the higher education sub-sector.

Table 4: GATS Commitments to Education Services by Selected ESCAP Countries*

Country	Primary	Secondary	Higher	Adult	Other	Total
Australia		✓	✓		✓	3
Cambodia			✓	✓	✓	3
China	✓	✓	✓	✓	✓	5
India			✓			1
Japan	✓	✓	✓	✓		4
Nepal			✓	✓	✓	3
New Zealand	✓	✓	✓			3
Thailand	✓	✓		✓		3
Total (48 countries) [#]	33	37	39	37	22	168

Notes: * As of August 2006. # Among WTO member countries

Sources: Calculated based on Services Gateway, WTO (www.wto.org), and information collected from the WTO Secretariat.

Among the ESCAP members, China is the only country which has extended its commitments to liberalize access in all five sub-sectors of education services. Except Thailand, rest ESCAP countries in Table 4 have already extended their commitments in higher education services. However, there is an overall sense of disappointment in the progress made to date in the number of countries that have tabled offers, the degree of liberalization offered, and the number of sectors committed. The unexpected low level of commitments is a deep concern, prompting much work to develop new and alternative means of encouraging countries to improve their offer in trade in education services.

¹⁴ Here, the European Union is counted as one country.

IV. Trade in Higher Education Services in India

In view of India's commitments in services trade liberalisation, here we talk about current issues relating to trade in higher education services only, the component which alone shares a major portion in India's services trade.

4.1 Broad Overview of Growth of Higher Education in India

The higher education system in India has grown rapidly since 1951. The numbers of universities have increased from 28 in 1950 to 348 in 2005 and colleges from 578 in 1950 to 17625 in 2005. The total enrolment increased from a meagre 200,000 in 1950 to about 10.50 million in 2005 (Table 5). The colleges that are affiliated to 348 universities constitute the bulk of the higher education system in India, which contribute around 90 percent of the total enrolment. Today, while in terms of enrolment, India offers the third largest higher education system in the world (after China and USA); with 17,973 institutions (348 universities and 17,625 colleges) is the largest higher education system in the world in terms of number of institutions (Government of India, 2005). The number of institutions more than four times the number of institutions both in the United States and entire Europe. Higher education in China is having the highest enrolment in the world (nearly 23 million) which is organized through only about 2,500 institutions. In India, the average enrolment in a higher education institution is only about 500-600 students, whereas a higher education institution in the United States and Europe alone would have 3000-4000 students, and in China this would be about 8000-9000 students (Agarwal, 2006).

Table 5: Trends of Higher Education Institutions (HEIs) in India

Year	Universities	Colleges	Total HEIs	Enrolment (million)
1950-51	28	578	606	0.20
1960-61	45	1,819	1,864	0.60
1970-71	93	3,277	3,370	2.00
1980-81	123	4,738	4,861	2.80
1990-91	184	5,748	5,932	4.40
2000-01	266	11,146	11,412	8.80
2005-06	348	17,625	17,973	10.50

Source: Agarwal (2006) based on University Grants Commission, India

According to Agarwal (2006), the growth of higher education in India can be divided into three phases: (i) period 1947 to 1980 can be termed as first phase, (ii) second phase is from 1980 to 2000, and (iii) the third phase can be taken from the year 2000 onwards. In the first phase, the growth of higher education was largely confined to arts, science and commerce. The government not only supported higher education by setting up universities and colleges, but also took over the responsibility of running the institutions set up through private sector. These came to be known as grant-in-aid (GIA) institutions or private aided institutions. In such institutions, though the private sector

financed a major part of the capital costs, public subsidies were provided to them to meet a part of the recurrent costs and occasionally for some capital works. Public funding was accompanied with considerable regulation of private institutions by the government (World Bank, 2003). Over the years, several private institutions had set high academic standards for themselves. With government regulation, their autonomy was compromised and standards went down. In effect, this led to the *de facto* nationalisation of private higher education and gave serious blow to the community-led private initiatives in higher education in the country.

In the second phase, starting from 1980 onwards till 2000, there was an unprecedented demand for quality higher education relevant to the needs of business and industry, putting considerable stress on governmental resources. Also, there was a substantial increase in the population in the middle and higher income groups, which could afford to pay higher tuition fees. This made the non-subsidised higher education a viable enterprise. Faced with such a situation, the state was left with no alternative but to allow the entry of private enterprise in the area of higher education.

Economic reforms in early 1990s saw the middle class grow bigger, younger and richer. These reforms also saw a rise in entrepreneurship in the country. The rising demand of higher education from the growing middle classes and the growing culture of entrepreneurship together accelerated the pace of growth of private higher education in the country. During this period, very few universities and colleges were set up by the government sector and fewer still were also brought within the ambit of government funding. In a way, this period was marked the near withdrawal of the government from taking over of additional responsibility for higher education in the country.

Till the late 1990s, the expansion of higher education largely took place through affiliated colleges. While number of higher education institutions has gone up till 2000-01 (11,412), just doubled than what was in 1990-91, quality of services has fallen due to rising bureaucracy and rent seeking activities of government regulators (Agarwal, 2006). This allows more private higher education services to function with higher freedom. The third phase of Indian higher education system starts from 2000 onwards with opening of 'deemed to be university route' by private as well as by government institutions to award degree.¹⁵

Over the last five years, there has been sudden jump in the number of deemed universities. In the early years, this privilege was extended only to the government / government aided institutions. Manipal University¹⁶ – a pioneer in private higher education became the first totally self-financed institution to be declared as a deemed to

¹⁵ Though, universities in the country are either set up by an Act of Parliament or State Legislature, however, certain institutions are also given the status of a deemed to be university in terms of section 3 of the UGC Act, 1956. Earlier this provision was used sparingly to declare premier institutions offering programmes at advanced level in a particular field or specialization as a deemed to be university to enable it to award degrees. Indian Institute of Science at Bangalore and Indian Agricultural Research Institute at Delhi were the first two institutions to be declared as deemed to be universities in 1958 for education and research at advanced level in the field of basic sciences and agriculture respectively.

¹⁶ Previously known as Manipal Academy for Higher Education (MAHE).

be university in 1976. After 2000, when the provision for conferring the deemed to be university status to a de novo institution was introduced, there was sudden spurt in the growth of deemed to be universities in the private sector. Between 2000 and 2005, 26 private-sponsored institutions got the deemed university status. Though the deemed to be universities do not have affiliating powers, many of them have a number of campuses spread throughout the country.¹⁷ In this way, the new entities were able to wriggle out of the oversight mechanism of the affiliating universities. They were also able to overcome the service area restrictions associated with an affiliating university. This intensified the competition in higher education in the country.

In general, the post-1980 period saw the emergence of new types of providers of higher education in India. During this period, the private institutions proliferated, the distance education programmes gained wider acceptance (see, Box 5), the public universities and colleges started self-financing programmes, and foreign institutions started offering programmes either by themselves or in partnership with Indian institutions and the non-university sector grew rapidly.

Since the 1990s, there has been an acute resource constraint in public financing of the higher institutions. Government subsidy has been reduced to a great extent in financing higher education. This had put a brake on the expansion of the public university system, and led enterprising public institutions to start self-financing courses in subjects having greater demand in market to meet the student demand.¹⁸

Foreign education providers and collaborators

Indian students were never behind in opting education in foreign universities. A large number of Indian students go abroad for studies. Sensing a huge unmet demand for professional education, a number of small foreign education providers have opened operations across different parts of the country. At the same time, Government of India in a liberal FDI policy has allowed 100 percent FDI in higher education. As per a study conducted by NIEPA, 131 foreign education providers were identified to be operating in India in 2005 enrolling a few thousand students in the country. This study found that the majority of the foreign education providers offer vocational or technical programmes. These were mainly from the USA or the UK, and operating under twinning arrangements

¹⁷ As noted in Agarwal (2006), there were opposite results as well. Many state governments realised that education was on the concurrent list of the Constitution and that they could establish private universities through legislation. By early 2005, seven private universities set up in different states were recognised by the UGC. This also led to a new state - Chhattisgarh in central India indulging in an astounding misadventure by allowing the setting up of 97 private universities with all India jurisdictions in the year 2002. This was struck down by the Supreme Court in February 2005 leaving the fate of nearly fifty thousand students registered in these universities hung in balance; the future of those who acquired degrees from these so called universities remains uncertain.

¹⁸ Higher education institutions charge the students tuition fees not only to cover the operating costs, but even generate surplus from self-financing courses. The courses were obviously offered in subjects having a demand in the market, such as engineering and technology, medicine, teacher education at the undergraduate level, computer applications and management at the postgraduate level. The fee structure in conventional courses in public institutions continues to be low. The revenue from fees is often adjusted from government grants.

or programme-based collaborations. For example, Ahmedabad-based Indian Institute of Management's student exchange programmes with Fuqua School of Business, Duke University (US)¹⁹, Stanford University's student exchange programme with Indian Institute of Management, Bangalore²⁰ or student exchange programmes between Indian School of Business, Hyderabad with Darden School of Business, University of Virginia. There are also credit transfer arrangements between Indian and foreign universities for undergraduate and postgraduate programmes. For example, Ansal Institute of Higher Education, Gurgaon has formal understanding with Clemson University (US), North Dakota State University (US), Tarleton State University (US) and Coastal Carolina University (US) for transfer of credits into full time degree programmes. In terms of its size and impact, the foreign education provision is still small in the country. For example, in 2004-05, one single course was only approved by AICTE, and in 2005-06, the approval was only for two courses.²¹ However, the Foreign Education Providers (regulation) Bill, if approved by the Government of India's Union Cabinet and made into a new law, will effectively allow foreign universities to set-up branches in India.

Table 6: Growth of Professional Higher Education Institutions in India

Name of Course	Number of Institutions (1999/2000)	Number of Institutions (2005/06)	Percentage increase*	Private Share (2003/04)	Public Share (2003/04)
	(No)		(%)		
Engineering	669	1478	121	88	12
Pharmacy	204	629	208	94	6
Hotel Management	41	70	70	90	10
Architecture	78	118	51	67	33
Teacher Education	1050	5190	395	68	32
MCA	780	976	25	62	38
MBA	682	1052	55	64	36
Medicine (Allopathic)	174	229	32	46	54
Physiotherapy	52	205	294	92	8
Total	3730	9947	167	78	22

Notes: * Refers to increase in institutions in 2005-06 over 1999-2000.

Source: Same as Table 5

The growth in higher education institutions in India in post-2000 period is mostly based on professional and popular courses which are driven by market demand. This

¹⁹ As on December 2006, Indian Institute of Management, Ahmedabad has formal understandings with 29 foreign universities of Europe, Southeast Asia, Australia and New Zealand under its international student exchange programmes (Economic Times, 16 January 2007).

²⁰ Stanford University has tied up with Indian Institute of Management of Bangalore to launch the Stanford – IIMB Student Exchange programme in 2007 (Business Standard, 18 January 2007).

²¹ In 2004-05, AICTE gave approval to Institution of Hotel Management, Aurangabad to start B.A (Hons) course in hotel management with an initial intake of 90 students in collaboration with University of Huddersfield, U.K. In 2005-06, AICTE extended approval to the Asia Pacific Institute of Information Technology, Panipat to start B. Eng. (Hons.) course in computing with an intake of 60 students, B.Eng. (Hons) course in computing in software engineering with an intake of 40 students, and B.Eng. (Hons) course in computing in multimedia with an intake of 40 students in association with Staffordshire University, U.K (Source: AICTE, New Delhi, available at <http://www.aicte.ernet.in>).

growth of professional higher education follows similar trends elsewhere in the world. Table 6 shows the growth in professional higher education institutions in recent years. In 2003-04, in the professional stream, nearly 78 percent of all institutions are in the private sector. Many of these private initiatives got degree granting powers either as deemed to be universities or even full-fledged private universities and offer popular courses such as engineering, pharmacy, management, and medicine.

Therefore, what follows is that the higher education sector was controlled by the government till about 1980. After that there has been a clear trend towards privatisation of higher education, resulting in the significant increase in number of private institutions. The growth has been predominantly in institutions offering professional courses. Private universities and foreign education providers are also emerging on the scene. According to some recent studies (for example, Tilak, 2005; Agarwal, 2006), in future the number of government and private aided universities and colleges is not likely to increase significantly while the number of private unaided higher education institutions may increase.

4.2 Broad Overview of Trade in Higher Education Services in India

Internationalising education services is the new mode of services trade which has gained much attraction due to GATS. Trade in education services involves integrating an international, intercultural or global dimension into the purpose, function or delivery of higher education. Rapid changes in technology and communication have compelled the process of internationalisation of higher education. For example, earlier consumption abroad (Mode 2) was essentially to meet the demand of emerging economies, now cross-border supply (Mode 1) and commercial presence (Mode 3) are gradually taking the lead role in trade in education services, particularly in trade between developed and developing countries. Nevertheless, these developments have resulted in increased cross-border activities in higher education. Trade in education services is already a major business in some countries. Global trade in higher education is large; it is estimated at more than US\$ 30 billion per annum (OECD, 2004). The major exporters of education are the USA, UK, Canada, New Zealand, and Australia in developed world, where as China, India, Philippines, Malaysia, Singapore, and Indonesia are fast emerging as exporters of this services.

There is a two-way classification of trade in educational services. First, the WTO Classification List (W/120) describes five categories, namely, primary education, secondary education, higher education, adult education, and other education. It must be understood that GATS does not make it mandatory for member countries to open up all the educational categories. In fact, one can reject opening up of all the categories. Based on a country's assessment of prospective gains, specific categories can be opened up. For example, countries that are substantially dependent on trade have already opened up all categories. These include some of the east European countries and New Zealand. It must also be noted that at the Doha meeting, formal communications for trade in educational services were put forward by the English-speaking countries New Zealand, US and

Australia. New Zealand, in its communication (S/CSS/W/93), seemed to explore opportunities in adult and/or other education services such as driver education. The US, in its communication (S/CSS/W/23), has so far proposed that countries commit to opening up of adult education and other education services such as educational testing services and training. Australia, in its communication (S/CSS/W/110), has suggested for opening up of secondary education. The second classification is based on the nature of trade in (educational) services. Article I.2 of GATS classifies trade into the four modes, which are already described in the Section 1 of this report.

Serious advanced research on trade in education services in India is yet to get a momentum. There are some casual studies²² which basically dealt with types of trades in education services in the context of India. A scan of these studies basically shows classification and its corresponding placement under Article I.2 GATS, which, *inter alia*, indicates (i) courses through distance education, online courses through the Internet, educational testing services, and educational materials that are provided overseas under Mode 1, (ii) Mode 2 refers to import of educational services through movement of the consumers/students to other country for pursuing education. A clear example is that of Indian students studying abroad and spending on educational fees and all related expenses of their stay. This is the bulk of import in India's education services, (iii) Mode 3 means actual presence of an educational service provider of a country in another country. For example, a foreign university starts branch in India, giving a foreign degree to the students, and (iv) Mode 4 involves people moving between countries to provide educational services such as, Indian teachers are going abroad to teach in the USA.

Even though GATS classification is quite clear in understanding the trade in services, there are clear ambiguities in enlisting services trade in each account. Deodhar (2002) provided a complete listing and possible examples of category-cum-modes of each type in context of India's educational services trade, and according to this, there are about 20 types (5 x 4) of trade in educational services. Bhushan (2004) attempted to judge relative India's strengths, challenges and opportunities in context of trade in education services. Sahni and Kale (2004) talked about the present system of higher education and attempts to find the possible implications for India in GATS. According to Sahni and Kale (2004), since the agreement is diverse, there are intrinsic pressures for pushing negotiations of 'interest groups', and in the absence of a coherent education policy, the effects of opening up could lead to a distorted function of education. In the same line, Deodhar (2002) commented that India must ensure that the safeguard instruments available in the GATS document are credible and enforceable. Even though no study has yet attempted to measure gains for India from trade in higher education under GATS, one of the conclusions of Bhusan (2004) is to restructure domestic regulations in order to protect domestic educational institutions and to allow the entry of foreign educational institutions only in subjects and conditions. However, there are opposite views as well. Chanda (2002) commented that given India's limited public resources to meet the growing education needs domestically, imports through Modes 1, 2, and 3 are likely to play an important role in future. Towards the same direction, Ahmad

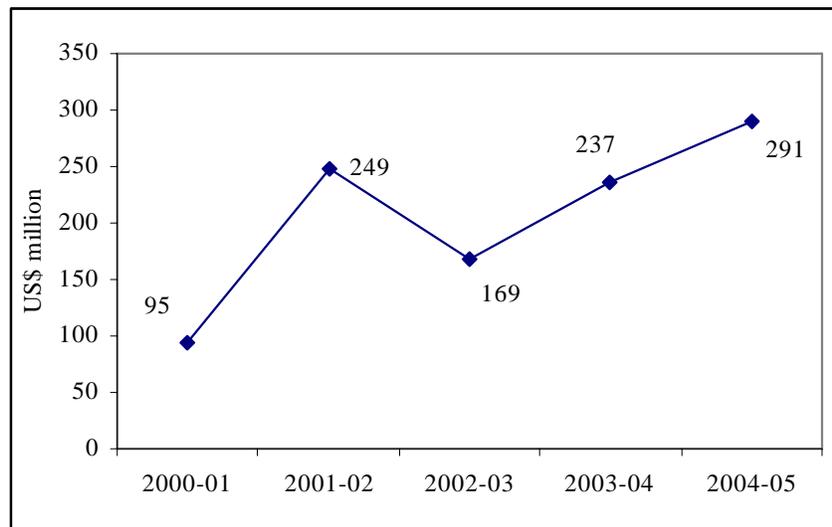
²² A list of such studies is available at library and documentation centre of NIEPA, New Delhi, and need no further elaboration in present context. Interested readers may visit www.niepa.org.

(2005) commented that in view of volume of trade under Mode 2 in trade in education services, India should actively participate in multilateral negotiations on higher education within the GATS framework to seize new opportunities those are available from enlarged market.

Mode-wise Trade in Higher Education Services: Some Preliminary Findings

Article I.2 of GATS defines four modes of supply in any service sector trade. The four modes are defined according to the location of the provider and the recipient. The liberalisation process of each mode opens up different sets of opportunities and challenges, though the modes are not mutually exclusive. The diversity of opportunities and challenges stems from a certain inherent asymmetry in the comparative advantage intrinsic in the education sectors of developed and developing countries. Unlike developed economies, India does not maintain separate trade in education services in its BoP statistics till 2000-01 when the country's central bank, Reserve Bank of India (RBI) started to compile trade in education services statistics but only for payments (imports). Due this data limitation, we failed to categorise mode-wise trade in education services. However, latest release of accounts of India's invisibles, RBI shows that India's import (payments) under trade in education services in 2003-04 was about US\$ 2.37 million, which increased to US\$ 291 million till September 2004, thereby contributing about 3 percent of country's total payments towards services imports (Figure 1).

Figure 1: India's Imports of Education Services



Note: Data for 2004-05 considers the period April to September 2004
Source: Reserve Bank of India (2005)

(i) Mode 1 (Cross border supply)

The first mode includes supply of education 'without' the movement of consumers or providers. Mainly e-learning and courses offered on the internet are covered in this mode. Also, correspondence courses through postal delivery systems could be included. (This also means an accompanied liberalisation of IT and postal

services, which are part of separate negotiations). Distance learning on the internet is a more recent phenomenon (see, Box 5). IGNOU has gained good reputation in abroad in marketing education programmes. It charges US\$ 250 for its prestigious management course (fees applicable in 2003). Similar course from a developed country would cost at least ten times that of above charge. IGNOU is already a recognized distance education provider in gulf region- Dubai, Abu Dhabi, Sharjah, Doha, Muscat and Kuwait. Its courses are being offered in Mauritius, Maldives, Seychelles, Nepal and Sri Lanka. Staff Training and Research Institute of Distance Education (STRIDE), IGNOU has also collaborated with the International Institute of Capacity Building in Africa (IICBA), Addis Ababa to provide distance education programme to students in Ethiopia and Liberia. Students from Commonwealth countries have also been offered IGNOU programmes through distance mode.

Box 5: Mode 1 - Distance Education Revolution in India

Distance education in India had its genesis in the early 1960s. It started as correspondence education, a supplementary method of education to meet the growing demand for higher education. Since then it has expanded rapidly, particularly over the last two decades. In 2005, there were 12 open universities, including the Indira Gandhi National Open University (IGNOU), and 106 dual mode university distance education institutes / centres in the country, catering to over 2.8 million students. Each year, nearly 1.3 million students register for various courses in these universities.

IGNOU was established by an Act of Parliament in 1985. Today it serves the educational aspirations of about 1.5 million students in India and 35 countries abroad through 11 Schools of Studies and an elaborate network of 58 regional centres, 7 sub- regional centres, 1400 study centres, and 41 overseas centres. The University is making all efforts to take higher education to the doorsteps of the hitherto unreached. As of now, we cater to about 10 percent of all students enrolled in higher education in the country are enrolled with IGNOU. Apart from teaching and research, extension and training form the mainstay of its academic activities. It also acts as a national resource centre; and more importantly, functions as an apex body to promote and maintain standards of distance education. The University has its presence in 35 countries. The Commonwealth of Learning has recognised it as one of its centres of excellence. It also has the unique privilege of hosting the Secretariats of SAARC Consortium of Open Distance Learning (SACODiL) approved by Heads of Governments of SAARC Nations and Global Mega Universities Network (GMUNET) initially promoted by UNESCO.

Distance learning was considered as an economical and a quick way of increasing enrolment in higher education. There are diverse types of providers offering a variety of programmes. The regulatory bodies have little control over them. They operate in different ways and sometimes at cross purposes with each other. The growth has been haphazard and the quality is both unsatisfactory and uneven (NIEPA, 2006). Also, there is an anomaly of the Distance Education Commission (DEC) is a part of IGNOU. This results in conflict of interest with IGNOU getting a preferential treatment over the other distance education providers from the regulator. Nowadays, the boundaries between distance education and on-campus education are in a continuous process of convergence, and it is likely that the future interrelations between them will be marked both by a growing competition and a growing cooperation.

Source: NIEPA (2006)

Mode 1 is perceived to have a very high potential of growth across the globe. The market for such courses is expected to be large in India. There are over 12 million internet users in India today. The domestic use of computers has experienced growth over 10 percent per annum in the last decade and the number of PC users in the educational sector has gone up to 102,655 in 2004 from 63,054 in 2001. The growth rate of PC use in education and other sectors is much higher in non-metro areas than in the metro areas in India. The international market for e-learning is expected to be US\$ 300 million by 2010 and the Indian market is expected to grow up to US\$ 30 million (NASSCOM, 2005). The comparative advantage in this mode of supply lies primarily with the developed nations. It is more probable that when e-courses become available on the net, the ones demanded most could be the ones that originate from leading universities in the US or UK due to their global recognition. Such distance learning courses would increase the participation rate of working professionals, homemakers and students from non-metro areas. Students in metro areas may also opt for such courses as an 'add on' to their degrees. Looking at this opportunity, Indian Institute of Foreign Trade (IIFT), New Delhi, a deemed university by status, has started an e-learning programme through VSAT, called Executive Masters in International Business (EMIB)²³.

(ii) Mode 2 (Consumption abroad)

This mode includes the movement of consumers or students across border. Presently, this is the mode, through which maximum trade takes place in education services. Movements in this mode in the international scenario in higher education have undergone a change in recent times, reflecting increasing competition among developed nations to attract students overseas. Presently, the US is the leading exporter of educational services, followed by UK, Australia, and Canada. Export of education here indicates primarily the revenue generated by the number of students enrolled in a foreign university (OECD-CERI, 2002a, 2002b). In 2004, US exports of educational services were estimated at US\$ 12 billion, which made higher education the country's fifth largest service sector export. Main export markets are in Asia (Japan, China, Korea, Taiwan, India, Malaysia and Indonesia), accounting for 60 percent of all US educational exports. The US is facing increasing competition from other countries, such as the UK and Australia, mainly in attracting Asian students. UK earned about US\$ 4 billion from educational service exports in 2004. Australia, the third largest service exporter of higher education provided educational services worth US\$ 2.6 billion in 2004. In Asia, Singapore and Malaysia have taken lead role in accommodating global educational centres to open their branches in very flexible terms in recent years.

With 74,603 students of the total 586,323 in the US being Indian, they comprise 13 percent of total international students. China was second with 64,757 students (IIE, 2004). The fees at universities abroad are rather high and the visa requirements necessitate a financial guarantee. Thus, the students going abroad from Asia are usually only those who can afford expensive education. According to OECD (2004), liberalisation of the Mode 3 (commercial presence) may reduce the number of students going abroad. Though the best universities are considered to be the ones in OECD

²³ Collected from www.iift.edu.

countries, India and other countries in Southeast Asia have been attracting overseas students over the last decade.

Table 7: Region-wise Number of Foreign Students in Indian Universities

Region	1991-92	1995-96	1999-00	2000-01	2001-02	2002-03
Asia , of which	5079	4832	3496	3866	4312	4452
South Asia	2044	2602	2031	2005	2226	1852
Australia (Oceania)	28	40	12	44	45	40
Africa	7028	4079	2549	2961	2363	1900
Europe	154	126	120	180	252	142
America	151	309	275	327	432	353
Total	12765	10087	6988	7791	8145	7738

Source: Department of Higher Education, Ministry of Human Resources and Development, Government of India

Table 8: Number of South Asian Students in Indian Universities

Country	1991-92	1995-96	1999-00	2000-01	2001-02	2002-03
Afghanistan	125	118	46	35	33	24
Bangladesh	565	1244	520	576	545	372
Bhutan	112	155	181	175	254	227
Maldives	18	23	18	10	14	34
Nepal	725	695	772	821	873	801
Pakistan	12	4	9	5	3	3
Sri Lanka	487	363	485	383	504	391
South Asia	2044	2602	2031	2005	2226	1852

Source: Same as Table 7

Indian institutions of higher education, for instance, have been attracting students from neighbouring developing countries. Most of the Indian higher education institutions conduct courses in English which is an added advantage (Altbach, 2003). However, over last few years fewer foreign students have chosen to make India as destination for higher education. In 2003-04, there were about 7,745 foreign students studying in India, marginally up from 7,738 in 2002-03 (Table 7), where students from South Asia were in majority (24 percent).²⁴ Table 8 indicates that while students from Nepal and Bhutan are continued to study in India in increasingly large numbers, that from rest South Asian countries has drastically fallen during 1991-92 to 2002-03. Contrary to popular belief, therefore, numbers of South Asian students in Indian universities has fallen during the aforesaid period. To make India as a favourite destination of foreign students, India's National Knowledge Commission (NKC) has recently suggested to Indian universities to plan for 50,000 global students, which, according to NKC, will not only enrich India's academic milieu and enhance quality but will also generate a significant amount of finance.²⁵ In order to attract more students from South Asia, following the models of Central European University (located at Budapest) and the University of Central Asia

²⁴ This does not consider foreign students studying in technical institutions (like IITs, IIMs, ISIs, etc.) including private universities. If those all counted, annual intake of foreign students will go up.

²⁵ See, National Knowledge Commission, New Delhi (Government of India, 2007).

(located at Kyrgyzstan), India is setting-up South Asian University (SAU) at New Delhi.²⁶

Box 6: Mode 3-Global Varsities Make a Beeline for Indian Tie-ups

Following Stanford and Carnegie Mellon's interest in India, other leading universities like The Georgia Institute of Technology (Georgia Tech), Atlanta, and Ben Gurion University (Israel) among others, are also looking to forge tie-ups with Indian institutions. Funded by Deutsche Telecom, while Georgia Tech will look to do research in the area of wireless communications and smart antenna, Ben Gurion is interested in forging a joint venture with an Indian institute to introduce a course in robotics. Discussions on this issue are on with the Finolex Group of Companies funded Indian Institute of Information Technology (IIIT) in Pune. Others, like Canada's number one business school, Schulich School of Business, York University has decided to set up a campus in the country, also in Pune. The Information and Communications University (ICU)-Korea too, is introducing a joint multi-country integrated M.Sc. program in Information, Communications and Technology (ICT) in India.

IIIT director professor Krishna Moorthy said that while Ben Gurion University will accredit the course in robotics, the content and delivery will be made available by professors from Carnegie Mellon University. He further said, "Robotics is increasingly being applied in the automotive segment and even in other verticals. As regards wireless communication technologies, smart antennae for mobile phones would be an ideal product for the Indian market where telecom signals are disturbed due to buildings or other obstacles." The way a smart antenna works is it automatically searches for the closest cell-tower, enabling mobile conversations to carry on undisturbed. India produces about 600,000 engineering graduates annually of which 200,000 are employable. The remaining still needs training inputs. On the other hand, corporate India requires more than five lakh engineering graduates annually.

"There is a need for trained people in specific verticals in IT and manufacturing and hopefully, with the entry of the foreign institutions in India, this issue will begin to get addressed," says Moorthy. Moreover, German company Giesecke & Devrient has also set up its R&D center in the institute's campus, in the first instance of a multinational setting up its R&D center inside an academic campus in another country. A multi-billion dollar company, Giesecke & Devrient is a leading supplier of banknote paper and specialises in banknote printing, currency automation systems as well as smart cards and complex system solutions for different industries. The firm implements the security features in Indian currency notes.

Source: Financial Express, August 24, 2006.

(iii) Mode 3 (Commercial presence)

Trade under this mode includes local branches of foreign institutions as well as joint ventures set up by one country in another member country. As noted earlier, even though 100 percent FDI on automatic route is allowed in higher education in India, Mode 3 trade in India is miniscule. In India, foreign participation is permitted through twinning, collaboration, franchising, and subsidiaries, among others. According to NIEPA, about 150 foreign education services providers under Mode 3 have started operation in India till

²⁶ Based on field survey.

July 2006.²⁷ Box 6 highlights recent attempt of foreign universities looking for collaboration in India. Some of foreign universities, such as University of Huddersfield (UK), Staffordshire University (UK), etc. have entered into India through joint venture. However, there is still ambiguity whether foreign universities are at all allowed by the Government to operate in India.²⁸

More importantly, the Indian market for higher education has witnessed high growth in exclusive profit oriented areas in recent years due to their orientation towards immediate employment. The proposal by the US mentions the possibility of ‘intra-corporate movement’, which would be a result of commercial presence. The US proposal is extremely keen on removal of barriers to Mode 3. Just as in Mode 1, multinationals have a keen interest in the education sector in terms of commercial presence. Higher education institutions in India have also started setting up campuses abroad e.g. Mumbai’s S P Jain Management School has set-up branches in Dubai and Singapore to offer MBA courses. Another example is CBSE’s schools in abroad. Till 2005, there were more than 100 (Indian) CBSE schools in overseas. Central Institute of English and Foreign Languages (CIEFL), Hyderabad, has successfully launched an English language teaching programme in Kyrgyzstan. However, there are several barriers in trade under Mode 3, and some with higher policy implications are mentioned in Box 7.

(iv) Mode 4 (Presence of natural persons)

The fourth mode exclusively deals with the movement of natural persons who are service providers (independent of commercial presence). Trade in educational services under this mode could be teachers or researchers going abroad on a temporary basis as providers of services (see, Box 7). For example, ISB Hyderabad’s faculty collaboration with US management schools is a good example of Mode 4.²⁹ However, the perceived barriers in this mode are mainly related to the tight immigration policy traditionally followed by developed countries and the issue of the recognition of qualifications of the third world professionals. Since the developing countries are perceived to have a comparative advantage in this mode, the removal of barriers in labour movement from developing countries is the main thrust in proposals put forth by it (WTO, 2003). The problem of removing barriers in this mode is related to the fact that most of the liberalisation proposals on the ‘horizontal’ basis. In the main categories scheduled in the horizontal commitments, intra-corporate transferees and executives, managers and specialists occupy the highest numbers.

²⁷ Based on authors personal communication with NIEPA, New Delhi.

²⁸ The issue of allowing foreign universities in India will be debated in the Indian Parliament soon after the Government finalizes the Foreign Universities Regulatory Vision, informed the representative of Rajya Sabha (the Lower House) to the media on August 21, 2006. Replying to supplementaries during Question Hour on August 21, 2006, India’s Human Resource Development Minister Mr. Arjun Singh said foreign universities till now were permitted to enter into agreement for research and development only. "We have not given any (foreign) university that kind of permission (allowing it in India)," Singh said adding the Foreign University Regulatory Vision would be brought before Parliament after being finalized (quoted in *The Hindu* on August 22, 2006, visit, <http://www.hindu.com/thehindu/holnus/001200608220311.htm>).

²⁹ ISB Hyderabad has faculty collaboration with Kellogg School of Management, Wharton (University of Pennsylvania) and London Business School. See, <http://www.isb.edu>.

Box 7: Mode 4-Export of Indian Education Abroad and Emerging Barriers

Export of education from India results from Indian institutions operating abroad and foreign students joining educational institutions in India. Many Indian institutions are opening their branch campuses abroad and are rated high in quality. However, the number of such institutions abroad is lesser than foreign institutions in India. In the higher education segment some deemed universities such as BITS Pillani and Manipal University (MU), and private institutions such as NIIT, besides some public institutions like Delhi university, IGNOU, SNDT College, Mysore University and Madras university are making their presence felt abroad. BITS, Pilani, set up its Dubai campus in September 2000 in association with ETA - NET, a member of ETA - ASCON group. Students of BPDC will obtain their degrees from BITS, Pilani - India, after the successful completion of 8 semesters of program. Thousands of students study in Manipal institutions situated in Sikkim, Mangalore, Nepal, Malaysia and Dubai. At present 2081 foreign students are enrolled at MU. Most of the students are in the medical, mainly from USA, Gulf, Sri Lanka and Malaysia. Indian origin students from 49 English speaking countries are at present studying at MU.

From BITS Pilani experience at Dubai, it is clear that initially it faced visa problem for students. There was also a compulsion to go for collaboration with a local partner. It was not possible for BITS Pilani to purchase land for developing sufficient infrastructure. Initially introduction of courses based on UAEs Islamic laws was insisted upon there was also problem of getting government job either in Dubai or outside, including India, for students having BITS Pilani degree. Sharing of revenue did not pose a problem. For branch campus BITS Pilani pays 15 percent royalty per student. Over time many problems were resolved as Dubai broadened the concept of export free zones where any university of world repute can come. The problems that still remain relate to (i) visa restrictions, (ii) mutual recognition of degrees by both the governments, (iii) important lesson is that understanding domestic regulation of different countries where India wishes to export education is necessary so that limitations or restrictions to open branch campus can be overcome through negotiations. From MU's experience in Malaysia, it was clear that mutual co-operation of India and Malaysian government was crucial in establishing branch campus abroad. The problem is that MU's medical degree got recognition in Malaysia, but Medical Council of India does not recognize the degree. What should be the process of recognition of degree in India provided by reputed Indian institutions abroad (deemed universities/private institutions) is a vexed issue up till now. Another problem is that after getting MU medical degree students from 41 countries have to prepare themselves for clearing the examination in their own countries to practice medical profession. MU helps them to clear the examination. So from MU's experience too, the real issue is how the regulation of 41 countries can be streamlined? This is also the question of mutual recognition of degree by the respective countries that need to be resolved. Connected with the issue of recognition is the issue of harmonization of degrees meaning thereby harmonization of years and content and the possibility of the transfer of credits.

There are also issues relating to Indian institutions collaborating with foreign universities and imparting education in India. Issues related to (i) recognition of degree in India by the government, (ii) ensuring the registration and quality assurance and thereby regulation of foreign education providers, and (iii) immediate concern is that there is no regulation except for AICTE. The terms of regulation should include issue of accreditation. The campus and land ownership restrictions are considered the stumbling blocks in the getting recognition of institutions.

Source: NIEPA (2004)

Table 9: India's Revised Offer on Higher Education Services

Sector or Sub-sector	Modes of Supply	Limitations on Market Access	Limitations on National Treatment
Higher Education Services (CPC 923)	Mode 1 (cross-border supply)	None subject to the condition that service providers would be subject to regulations, as applicable to domestic providers in the country of origin.	None
	Mode 2 (consumption abroad)	None	None
	Mode 3 (commercial presence)	None subject to the condition that fees to be charged can be fixed by an appropriate authority and that such fees do not lead to charging capitation fees or to profiteering. Subject further to such regulations, already in place or to be prescribed by the appropriate regulatory authority. In the case of foreign investors having prior collaboration in that specific service sector in India, FIPB approval would be required.	None
	Mode 4 (presence of natural persons)	Unbound except as in the horizontal section	Unbound except as in the horizontal section

Note: Revised offer dated August 24, 2005.

Source: Ministry of Commerce and Industry, Government of India. (Available at http://commerce.nic.in/wto_sub/services/service_offer.htm)

India's Offer in GATS

India's revised offer on services dated August 24, 2005 indicates that the country has not taken any commitments in education services, except higher education services (Table 9). India has no multilateral obligation under the GATS framework so far to open up higher education services to foreign participation as it has not scheduled any commitment in education services in the GATS. Though India has received plurilateral requests from several countries like Australia, Brazil, Japan, New Zealand, Norway, Singapore, and the US, it has not made any offers in this sector as on date. Table 9 also indicates that while there are no limitations on national treatment in Modes 1, 2 or 3, horizontal commitments would be effective in Mode 4. India's proposal demands liberalisation in Mode 4 mainly because of the large possibilities of export of service providers from the information technology, medicine, engineering, finance, education, architecture and construction industries as also the entertainment and hospitality industries.³⁰ India's revised offer also tells us that the country is more committed to liberalising higher education services (Government of India, 2006).

³⁰ India, however, is not alone in demanding liberalisation of Mode 4; there is also a proposal put forth on this by 14 developing countries jointly, including China, India and Mexico, which reiterates India's position (NIEPA, 2002; WTO, 2003).

V. Measuring Barriers to Trade in Education Services: Field Survey and Estimation Results

The measurement of barriers to trade in services, and the gains associated with removing such barriers, has been of keen interest for the past several decades. This is more due to several negotiations carried on the helm of the World Trade Organisation (WTO). While the ‘invisible’ barriers to trade in goods are gradually disappearing across countries, the role of services trade has gained due importance – multilaterally and otherwise.³¹

In general, barriers to trade in services are not like tariffs. They are typically regulatory barriers, rather than explicit taxes. The underlying economic rationale for these policy reforms is that the removal of barriers to trade in services is likely to result in lower prices, improved quality, and higher competitiveness. As with trade in goods, restrictions on trade in services reduce welfare because they create a wedge between domestic and foreign prices, leading to a loss to consumer surplus. A number of barriers are specific to higher education services. The more important ones that education and trade policy-makers need to pay close attention to are listed below:

In past few years, several studies were carried out to measure the welfare impact from liberalisation of services trade.³² Most of the studies find that, regardless of the sector under analysis and the methodology used, on average, developing countries are more restrictive than developed countries. Some of these studies also indicate that services liberalisation is likely to imply potentially large gains for countries with high initial trade barriers. Consequently, developing countries are expected, in the long run, to gain most from services liberalisation. Most of these gains arise from liberalising one’s own domestic service sector, not from seeking better market access to foreign services markets. In the short and medium run, however, gains may be negatively affected by the adjustment costs of barriers removal and re-regulation. These are likely to be particularly burdensome in developing countries. Gains from services liberalisation are also found to exceed those from goods liberalisation by up to a factor of five. Estimates, however, vary on the basis of the size of initial trade barriers, theoretical frameworks, modelling techniques and datasets used. For this reason, it does not seem appropriate to single out as representative of potential gains from trade liberalisation any specific figure or range.

Econometric studies that analyse the dynamic effects of liberalisation and the impact on specific sectors find higher gains than CGE simulations. When the econometric model is well specified, this result is likely to stem from the dynamic element of econometric studies which take account of the long-run adjustments occurring through capital accumulation, population growth, and technological change.

³¹ At the regional level, realising the need for liberalisation of trade in services, the Heads of State or Government of SAARC members in the recently held 13th SAARC Summit recognised the need to take process of regional economic integration further by expanding the scope of SAFTA to include trade in services, enhanced investment and harmonized standards. With a view to promote intra-regional trade, they emphasised the need for parallel initiatives for removing of barriers to trade in goods and services.

³² Refer, Section 2 to know the findings of such studies.

Quantifying the welfare effects of liberalisation in services requires two steps: the estimation of barriers and the insertion of these estimates into a general equilibrium (CGE) framework. Measuring the magnitude of restrictions and barriers is thus a fundamental step towards a correct assessment of the impact of services liberalisation. It is also important per se because “it crystallises the costs of protection for governments, the benefits that will accrue from their removal and is impetus for reform” (McGuire, 2002).

The literature assessing the nature and magnitude of barriers mainly follows methodologies previously developed to measure Non-Tariff Barriers (NTBs) in manufacturing.³³ As a result, tools for measuring barriers to services trade and the impact of liberalization are still subject to some limitations and still need to be improved to address the distinctive features of services.

In addition to the larger spectrum of barriers than in the case of goods, it is necessary to determine whether regulations actually constitute barriers to trade, as one cannot simply equate regulations with barriers. Further, given that regulations on services are generally designed to serve a range of policy objectives, it might also be relevant to consider whether the regulation is more burdensome than necessary to achieve its policy objective and whether other, equally effective but less trade restrictive, measures might be available. These policy measures are not easy to quantify and require the development of sophisticated measurement methods.

In present context, we propose to measure barriers to trade in education services through partial equilibrium model – a panel data analysis over a set of Asian countries for the period 1999-2000 to 2004-2005. This may come closest to the macro dynamic study in Mattoo, Rathindran and Subramanian (2001), but is certainly different in orientation. Our first approximation is to consider number of internationally mobile students from Asian countries, mainly from developing ESCAP countries in j^{th} developed country (IMS_{jt}) depends on per capita GDP in the destination countries, taken at constant US\$ (PCY_{jt}), Tertiary School enrolment ratio SCH_{jt} (in the destination countries), internet use per 1000 population in destination countries $INET_{jt}$, and relative cost of living $PRCOL_{jt}$ (relative to US GDP at current PPP prices in percentage term in the destination country). This regression will try to identify the main quantifiable supply or demand factors which influence the movement of international students. At the same time the regression will reveal whether there are factors, mainly qualitative, which are left out but significantly influences such movements. In the latter case these qualitative factors will

³³ NTBs are generally measures taken by both governments and firms. These measures can affect the entry and operations not only of foreign suppliers, but also of new domestic suppliers, and consequently directly raise the price or cost of both foreign and domestic supply. Conventional non-tariff barriers to trade can be classified as market access instruments or national treatment measures and can take the form of quantitative restrictions, price based instruments, licensing or certification requirements and discriminatory access to distribution or communication systems. Similarly, in services, trade restrictive measures either restrict market access or discriminate against foreign providers and barriers can be classified according to whether they impinge on the right of establishment (Mode 3) or the right to supply or consume services in a foreign country (Modes 1, 2, 3, 4). See, Findlay and Warren (2000), Chen and Schembri (2002) and McGuire (2002) for detailed reviews on the literature and methodologies to measure the barriers to trade in services.

be the main barriers to trade in education services. Following above, the regression in the panel form looks like as follows.

$$\text{IMSA}_{jt} = \beta_1 + \beta_2 \text{PCY}_{jt} + \beta_3 \text{SCH}_{jt} + \beta_4 \text{INET}_{jt} + \beta_5 \text{PRCOLI}_{jt} + \varepsilon_{jt}$$

where j is country, and t is year. The sources of data are World Bank's World Development Indicators and UNESCO's Global Education Statistics.

The second parallel exercise which is done is a primary survey based evaluation of the barriers to educational trade in some of the major educational institutes in India. The main aim of this survey is to generate the kind of pilot survey needed to go for a larger and more comprehensive survey. Appendix 1 provides the questionnaire framed to carry the primary survey among 14 premier higher education institutions and authorities in India, whereas list of institutions covered in this study is given in Appendix 2. As the questionnaire reveals, the data reveals the actual physical presence of the foreign students in Indian institutions as well as the responses from the administrators to this question about the possible barriers to movement of foreign students in their respective institutions.

We discuss the empirical results in two parts. In first part, we discuss the results of the primary survey, and in the second part, we deal with the regression results.

5.1 Primary Survey Results

The main aim of this primary survey is to get a preliminary idea about the nature of education availed by foreign students in India. Following findings are worth noting.

(i) Courses Pursued

There is a clear distinction between courses undertaken by foreign students in Kolkata and Delhi, the two metropolitan cities where the survey is carried out. In Delhi, foreign students could be found taking different types of regular courses in all disciplines. In Kolkata (including the Tagore-established Visva Bharati University in Shantiniketan, located about 150 km. from Kolkata), in contrast, foreign students are found to be placed in specialised courses. Most of these are short term or casual courses. For example, Indian Statistical Institute (ISI), Kolkata offers one year special course on statistics through International Statistical Education Centre, Jadavpur University offers several one year certificate courses in language, Visva Bharati University offers multidisciplinary casual courses, etc. The reason seems to be the location factor. Delhi being the national capital gets comparatively more foreign students in general due to the direct students aids offered by the Government of India. On the other hand, Kolkata being a regional city, all the universities and institutions located in the State, except few, such as Indian Statistical Institute, Indian Institute of Management, and Visva Bharati University, are aided by the State government. The survey reveals that openness in the education sector is pursued more vigorously in the Delhi institutes, compared to Kolkata.

(ii) Tuition Fees Structure

Tuition fee is somewhat similar for foreign students across the educational institutions in India. The survey reveals that there are several classifications followed across institutions, and some of them are as follows.

- Students (nationals) of SAARC countries pay much less than others, usually less than 50 percent.
- NRI students get special concessions in some cases. There are special schemes promoted by Government of India like Direct Admissions of Students Abroad (DASA) to enlisted institutions. The tuition fees in this case, however, are almost the same for other foreign students.
- Indian Council of Cultural Relations (ICCR) provides liberal scholarships to students from developing countries. But there are quotas for different countries. Altogether there are about 1800 scholarships of various types, offered by the Government of India.
- In general, tuition fees of physical science courses are found to be higher than social science and humanities courses, while management courses command the highest fees. However, the tuition fees of engineering courses are lower than the same of management courses. Course fees also differ for undergraduate and graduate courses. Table 10 gives us an idea about the fee structure for graduate courses.

Table 10: Average Tuition Fees Structure, as of December 2006

Postgraduate Course	Institute	Tuition Fees per Annum (US\$)
Physical science	Jawaharlal Nehru University, Delhi	1500
	Jadavpur University, Kolkata	5000
Humanities and social science	Jawaharlal Nehru University, Delhi	1000
	Delhi University, Delhi	4150
Engineering	Indian Institute of Technology, Delhi	4000
	Jadavpur University, Kolkata	5000
Management	Indian Institute of Management, Kolkata	8000
	Indian Institute of Foreign Trade, Delhi	10000
Distance education	Indira Gandhi National Open University, Delhi	750 – 1000

Source: Collected through field survey

Quite consistent with the trend, the survey found that the fees structure in Indian institutes is lower than those offered by the institutes of developed countries. For example, annual tuition fees of a postgraduate course in humanities and social science in developed countries in 2005 were as follows: US\$ 10000 - 30000 in US, US\$ 30000 - 45000 in UK, and US\$ 10000 to 40000 in The Netherlands.³⁴

³⁴ Collected from UNESCO and educational ministries web sites of respective countries.

(iii) Cost of Living

The survey reveals that the cost of living in Delhi and Kolkata, with shared apartments, is around US\$ 900 and US\$ 1200 per annum, respectively. However, the same in developed countries would be about US\$ 12000 per annum (in US).

(iv) Barriers to Education Services

- **Barriers in the perception of the administrators:** According to the administrators, surveyed in this study, the biggest barrier to promoting Indian education abroad seems to be getting proper access to foreign educational markets. However, it is not clear whether they meant this to be a problem on the part of Indian institutes or foreign markets. It seems the problem lies squarely on both. Some administrators also indicated that the problem of equivalence of degrees is also a barrier. This also leads to a peculiar problem that Indian diplomatic missions abroad do not grant visas unless the students have secured admission letters in their hand (meaning thereby equivalence of courses), whereas Indian institutions are reluctant to admit foreign students unless the Indian diplomatic missions abroad certify their degrees are equivalent to Indian standard. This is also related to the problem of credit transfer for graduate level courses. Also, some administrators pointed out the language problem as a barrier as proper language training is not given prior to the commencement of the courses. It was also often mentioned that the limited number of seats availability to the foreign students is also a barrier to promote Indian education abroad. In many cases, the survey found that it is limited to 5 percent of the total strength.
- **Barriers in the perception of students:** From limited observations,³⁵ we found lack of good residential facilities, good transport facilities and absence of language training facilities, among others, are some of the major obstacles faced by foreign students in Kolkata.
- **Exchange and collaboration programmes:** Indian Universities have gone a long way in promoting collaborative programmes for study and research with foreign universities and colleges. There are some variations in the arrangements as well. For example, Indian Institute of Managements in India have agreements for students exchange primarily with developed countries, whereas Indian Statistical Institute have formal understanding with the International Statistical Institute (The Netherlands) and UNESCO for offering special course on statistics to nationals of developing countries only. Similarly, ICCR scholarships are primarily meant for developing countries, especially SAARC countries. However, universities like Jawaharlal Nehru University in Delhi, Delhi University, Indian Institute of Technology, and Jadavpur University have research faculty exchange programmes with a number of foreign universities. However, such agreements are not yet very common across other Indian institutes. Also, joint degree programmes are rarely offered by institutions in India.

³⁵ Not too many foreign students were available on campus at the time of this survey in Delhi, whereas we found some foreign students at the time of this survey in Kolkata.

5.2 Panel Regression Results

The panel regression undertaken in this study has one primary objective - understand the major determinants of movement of students for education from developing to developed countries. The physical movement of students for education takes place mainly from developing to developed countries. Also, the major area from where movement to developed countries originates is the developing world of Asia. The Mode 2 of services trade (consumption abroad) captures this movement.

In this study, we have considered USA, UK, Australia, France, Germany, Japan, Italy, Ireland, Sweden, and Switzerland as destination countries. The originating countries are mainly developing ESCAP countries including some of the developed or high-income developing countries like Japan, Singapore and Hong Kong, China. The destination countries are chosen on the basis of availability of data for 5 years (1999 to 2003).³⁶ The regression looks like as follows.

$$\text{IMSA}_{jt} = \beta_1 + \beta_2 \text{PCY}_{jt} + \beta_3 \text{SCH}_{jt} + \beta_4 \text{INET}_{jt} + \beta_5 \text{PRCOLI}_{jt} + \varepsilon_{jt}$$

where, IMSA_{jt} is Internationally Mobile Students originating from Asia in country j at time t ; PCY_{jt} is Per Capita GDP at constant 2000 US\$ for country j at time t ; SCH_{jt} is Gross Tertiary School Enrolment for country j at time t ; INET_{jt} is Internet users per 1000 people in country j at time t ; PRCOLI_{jt} is Relative Cost of Living in country j in time t , relative to USA at GDP per capita current PPP prices in percentage term, and ε_{jt} is the white-noise error term for country j in time t . Here, $j = 1, \dots, 10$, and $t = 1, \dots, 5$. So, altogether we have 50 data points.

Does the above regression imply demand or supply of international students? A Panel data does not reflect it very well. One needs a proper simultaneous equation system to understand this. However, the above is like a reduced form and reflects the determinants to international movements of students. We will discuss more of it when we discuss the signs of the coefficients. The above is a panel data involving 10 destination countries and 5 years. The regression is expected to show the following possibilities:

- (a) Is Classical regression best result? Use Breusch Pagan LM test for this, and
- (b) In case panel regression is better, test whether fixed or random effect holds. Use Hausman test.

Now one may question the relevance for this regression in order to understand the barriers (and their costs) to trade in education. The regression results are the most important determinants of Mode 2 type of trade in education services. In case the classical regression holds with a good fit, the movement of students does not seem to have any additional determinants than what are taken in the regression. In that case, there are not many non-quantifiable barriers to trade in education services. In case the Fixed

³⁶ Since latest data are not available for some of the variables used in the regression, the year 2003 is thus chosen as terminal year in this study.

Effect holds, each country does have special characteristics which might facilitate or hinder movement of students from Asia to that country. On the other hand, if Random Effect holds, country specific effect does not matter. However, in this case there may be some general characteristics, not explicitly mentioned in the regression, which might facilitate or hinder movement of students from Asia to the destination developed countries.

In our particular case, double log regression seems to be the better fit, implying non-linearity in the regression relationship. Thus, all the variables are taken in their logarithmic transformation. In addition, School Enrolment and Internet Use have high co-linearity. Therefore, only School enrolment is taken into account. The regression produces the following statistics.

- (a) LM test has a value of 96.29, which rejects classical regression in favour of Panel regression, and
- (b) Hausman test has a value of 11.91, which favours Fixed Effect Model (FEM) against Random Effect Model (REM).

From the above, FEM is the right choice for Panel data. The following FEM is obtained, suppressing the general constant term:

$$LIMSA_{jt} = 4.156^{***} LPCY_{jt} + 1.397^{***} LSCH_{jt} - 2.412^{**} LPRCOLI_{jt}$$

where, ** and *** indicate estimated coefficients are significant at 5 and 1 percent level, respectively. Appendix 3 provides the regression results which were obtained using the statistical package LIMDEP. The FEM values estimated for 10 countries mentioned above are given as follows:

Country (Group)	Coefficient
Australia	-25.248
Germany	-25.645
USA	-25.690
UK	-25.956
France	-26.814
Japan	-27.692
Italy	-28.061
Ireland	-29.268
Switzerland	-29.984
Sweden	-30.104

The result above shows quite expected signs for the determining variables. Higher per capita income increases demand for foreign students in destination countries to meet home country skilled labour requirements. It also gives a positive signal to potential internationally mobile student regarding future opportunities. Higher school enrolment again is a positive signal to the potential students that education system is strong in the

destination countries. Higher relative cost of living has a negative influence on the potential movers as expected.

The above determinants also point out some quantitative barriers to trade in education services. For example, higher cost of living, which includes both tradable and non-tradable prices, acts as a barrier to students aspiring education in developed country. Similarly, lower school enrolment will be a barrier to potential international student mobility. But, these are not really policy induced barriers. They may be termed as market determined barriers to movement of international students.

However, the Fixed Effect regression points to other determinants which are country specific and not accounted for in the regression. Interestingly, all the country specific effects are negative and somewhat equal in magnitude - last five countries have higher absolute values, with Sweden topping the list closely followed by Ireland and Switzerland. Thus, the actual movement of students are less than what are predicted by the explicit determinants in the regression - like per capita income, school enrolment and relative cost of living. So, these barriers are mostly non-quantifiable. They may be course equivalence requirements or cultural or religious or language or distance, etc. But clearly, they exist. Therefore, what follows is that Mode 2 trade in education services does face barriers to trade so far as Asian student mobility to developed countries are concerned. Clearly, one needs case by case micro level studies to understand the extent and variability of these barriers.

VI. Conclusions and Future Research Agenda

Countries across the world witness a spectacular growth in trade in higher education services over the past few years. Education services sector liberalization exerts an economy-wide influence as they constitute strong inputs to all other economic activities, including trade. Given that the education services are traded predominantly through student mobility across borders (Mode 2, consumption abroad), nonetheless, a host of problems persist particularly in developing countries and LDCs in opening up their education services, in raising their standards of education services, in recognizing each others' standards, and in removing the barriers to trade in education services.

Apparently, developing ESCAP economies have limited intra-regional trade in education services. USA and Europe together are the largest recipients of international students whereas the Asia is largest emitting region. The trade in education services is directly associated with different educational systems, language, culture and also to some extent ethnicity and religion. These types of asymmetries across the countries pose a continuous threat to trade in education services. In view of technological change, there is an important need to measure the market size and also the barriers to education services trade in developing countries and LDCs members of ESCAP.

Given above, this study is aimed at highlighting barriers to trade in education services for selected ESCAP countries. This study highlights both the explicit and implicit barriers and also provides the ways forward to eliminate such barriers. The findings of this study are quite revealing. Both primary and secondary surveys indicate existence of barriers to trade in education services when we consider Mode 2. The primary surveys show cost advantage of studying in India, but poor quality of supporting infrastructure facilities such as limitation of seats, poor housing or hostel and transportation facilities pose a major problem for international students. This also points out to a lack of market access for the Indian institutions abroad as well as problems of language training. On the other hand, the secondary data based panel study clearly reveals existence of country specific barriers apart from market induced barriers in developed countries. The market induced barriers, as the results suggest, are the school enrolment, level of development and relative cost of living. The results indicate that higher per capita income increases demand for foreign students in destination countries to meet home country skilled labour requirements. It also gives a positive signal to potential internationally mobile student regarding future opportunities. Higher school enrolment again is a positive signal to the potential students that education system is strong in the destination countries. Thus, looking at them from the other side, poor levels of development and low tertiary school enrolment signal less attractive destinations for the potential internationally mobile students, hence prevents the latter from seeking admissions to the educational institutions of those countries. The panel regression results also indicate that higher relative cost of living has a negative influence on the potential movers as expected.

There are some quantitative barriers to trade in education services, captured in this study. For example, higher cost of living, which includes both tradable and non-

tradable prices, acts as a barrier to students aspiring education in developed country. Similarly, lower school enrolment will be a barrier to potential international student mobility. But, this is not really policy induced barriers. They may be termed as market determined barriers to movement of international students.

The Fixed Effect Model (FEM) panel regression points to other determinants which are country specific and not accounted for in the regression. Interestingly, all the country specific effects are negative and somewhat equal in magnitude - last five countries have higher absolute values, with Sweden topping the list closely followed by Ireland and Switzerland. Thus, the actual movement of students are less than what are predicted by the explicit determinants in the regression - like per capita income, school enrolment and relative cost of living. So, these barriers are mostly non-quantifiable. They may be course equivalence requirements or cultural or religious or language or distance, etc. But clearly, they exist. Therefore, to conclude, Mode 2 (consumption abroad) trade in education services does face barriers to trade so far as Asian student mobility to developed countries are concerned. A more detailed study involving one originating country but a number of destination countries would have made the idea of barriers more comparative in nature.

Future studies may be attempted to understand country-wise extent of the barriers (and their costs). However, as the present study highlights, there are several areas where further works can be done, and some of them briefly are as follows:

- Apart from Mode 2, future studies should deal with the other modes as well. This is especially true when FDI (in some cases even 100 percent) is allowed in education sector by many of the ESCAP countries. So, specific successful case studies need to be done to analyse these cases.
- Future studies can analyse the barriers better if supported by primary survey considering students and administrators in institutions where the foreign students are more in number. This paper reports the initial pilot survey done on a random basis as an experiment. Based on this, future studies can identify the institutions where foreign students have clusters. Next round of work should be aimed at these institutions.
- The regression analysis clearly shows the utility of state of the art panel study. At the same time, it reflects paucity of qualitative data, especially for variables like quality of education and infrastructure, problem of language or religion, place of origin, distance from the places of learning, etc. A country by country study to understand the barriers would be perhaps better.

Bibliography

- Agarwal, Pawan (2006) *Higher Education in India: The Need for Change*, Working Paper 180, Indian Council for Research in International Economic Relations (ICRIER), New Delhi
- Ahmad, Nighat (2005) *WTO and Higher Education: Challenges and Opportunities for India*, Conference Proceedings, Indian Economic Association, pp. 157 - 165
- Altbach, Philip G (2003) "Academic Colonialism in Action: American Accreditation of Foreign Universities", *International Higher Education*, No. 32, Summer 2003, pp. 5-7
- Azad, A. K. (1999), *Inter-Industry Linkages of Services in the Bangladesh Economy (with a case study of the ready-made garments industry) and Potential Services Trade*, Mimeo, World Bank, Washington, D.C.
- Balassa, B. (1965) "Trade Liberalization and 'Revealed' Comparative Advantage", *The Manchester School of Economic and Social Studies*, Vol. 33, pp. 99-123
- Baysan, T., A. Panagariya and N. Pitigale (2006), *Preferential Trading in South Asia*, Policy Research Working Paper 3814, World Bank, Washington D.C.
- Bhattarai, Keshab and John Whalley (1998) *The Division and Size of Gains from Liberalization of Service Networks*, Working Paper 6712, National Bureau of Economic Research.
- Bhusan, Sudhanshu (2004) "Trade in Education Services under GATS: Implications for Higher Education in India", *Economic and Political Weekly*, Vol. 39, No. 23, pp. 2395 – 2402.
- Bohm, A. et al. (2004) *Forecasting International Student Mobility: A UK Perspective*, British Council, London.
- Brown, D., A. Deardorff and R. Stern (2002), *Computational Analysis of Goods and Services Liberalization in the Uruguay Round and the Doha Development Round*, Discussion Paper No. 489, Research Seminar in International Economics, School of Public Policy, University of Michigan.
- Chanda, Rupa (2002) *Globalization of Services: India's Opportunities and Constraints*, Oxford University Press, New Delhi
- Chen, Z. and Schembri, L. (2002) *Measuring the Barriers to Trade in Services: Literature and Methodologies*, Department of Foreign Affairs and International trade, Canada.
- Chia, Ngee Choon and John Whalley (1997) "A Numerical Example Showing Globally Welfare-Worsening Liberalization of International Trade in Banking Services", *Journal of Policy Modelling*, Vol. 19, No. 2, pp. 119-27.
- Claessens, S. and D. Klingebiel (1999), *Alternative Framework for the Provision of Financial Services: Economic Analysis and Country Experience*, Policy Research Working Paper 2189, World Bank, Washington D.C
- Claessens, S. and Glaessner, T. (1998) *Internationalization of Financial Services in Asia*, World Bank.
- Claessens, S., A. Demircuc-Kunt, and H. Huizinga (1998) *How Does Foreign Entry Affect the Domestic Banking Market*, World Bank Policy Research Working Paper No. 1918, May 1998, World Bank, Washington, D.C.

- Colecchia, A. (2000) “Measuring barriers to market access for services: A pilot study on accountancy services”, in Findlay, C. and Warren, T. (eds.), *Impediments to Trade in Services: Measurement and Policy Implication*, Routledge, New York
- Czinkota, M. R. (2005) *Loosening the Shackles: The Future of Global Higher Education*, Prepared Statement for the WTO Symposium on Cross-border Supply of Services, Geneva, April 28-29.
- Dailami, M (2000), *Financial Openness, Democracy and Redistributive Policy*, Policy Research Working Paper 2372, World Bank, Washington D.C
- De, Prabir (2006) “The Growth of International Trade in Services in Developing Countries: Some Implications”, *Journal of International Logistics and Trade*, Vol. 4, No. 2, pp. 75-106.
- Deardoff, A. (2001) “International Provision of trade Services, Trade and Fragmentation”, *Review of International Economics*, Vol. 9, No. 2, pp.233-248.
- Deardorff, A. and Stern, R. (1998) *Measurement of Nontariff Barriers*, University of Michigan Press, Ann Arbor.
- Deardroff, A (2001), “International Provision of Trade Services, Trade and Fragmentation”, *Review of International Economics*, Vol. 9, No. 2, pp. 233-248
- Dee, P. and K. Hanslow (2000), *Multilateral Liberalization of Services Trade*, Productivity Commission Staff Research Paper, Ausinfo, Canberra.
- Deodhar, Satish Y (2002) “Educational Services: Issues for India in WTO Negotiations Issues for India in WTO Negotiations”, *Economic and Political Weekly*, Vol. 37, May 11.
- Dessus, Sebastien (2001), *Human Capital and Growth – The Recovered Role of Education Systems*, Policy Research Working Paper No. 2632, World Bank, Washington D.C.
- Eschenbach, Felix and Bernard Hoekman (2005), *Services Policy Reform and Economic Growth in Transition Economies, 1990-2004*, Policy Research Working Paper No. 3663, World Bank, Washington D.C.
- Findlay, C. and Warren, T. (2000), *Impediments to Trade in Services: Measurement and Policy Implication*, Routledge, New York
- Francois, J. and L. Schuknecht (1999) *Trade in Financial Services: Precompetitive Effects and Growth Performance*, Discussion Paper 2144, CEPR
- Francois, J. and L. Schuknecht (2000) *International Trade in Financial Services, Competition, and Growth Performance*, Discussion Paper 6, Centre for International Economic Studies
- Francoise, J., and B. Hoekman (1999) *Market Access in the Service Sectors*, Tinbergen Institute.
- Gabriele, A. 2004. “International Trade in Services and the Evolving Position of Developing Countries”, *Journal of Economic Integration*, Vol. 19, No. 4, pp. 780-803
- Government of India (2005) *Education Statistics of India*, Ministry of Human Resources Development, New Delhi
- Government of India (2006) *Report of the Committee on “Requests” on Education Services under GATS*, Ministry of Commerce and Industry, New Delhi
- Government of India (2007) *Report of the National Knowledge Commission*, Submitted to the Prime Minister Office, New Delhi.

- Hoekman, B. (1995) "Assessing the General Agreement on Trade in Services," in W. Martin and L.A. Winters (eds), *The Uruguay Round and the Developing Economies*, Discussion Paper No. 307, World Bank, Washington DC, pp. 327-64.
- Hoekman, B. (2000), "The Next Round of Services Negotiations: Identifying Priorities and Options," *Federal Reserve Bank of St. Louis Economic Review*, July/August 2000, pp. 31-47.
- Hoekman, B. and C. A. Primo Braga (2001), *Protection and Trade in Services: A Survey*, (Volume 1), Policy Research Working Paper 1747, World Bank, Washington D.C.
- IIE (2005) *Open Doors Reports on International Education Exchange*, International Institute of Education, Washington DC
- IMF (2006) *Balance of Payments Statistics 2006 CD ROM*, International Monetary Fund, New York
- Kalirajan, K. (2000) *Restrictions on Trade in Distribution Services*, Productivity Commission Staff Research Paper, Ausinfo, Canberra.
- Kemp, S. (2000) "Trade in Education Services and the Impacts of Barriers to Trade", in Findlay, C. and Warren, T. (eds.), *Impediments to Trade in Services: Measurement and Policy Implication*, Routledge, New York
- Knight, J. (2003) *GATS, Trade and Higher Education - Perspectives 2003 – Where are We ?*, The Observatory on Borderless Higher Education. London.
- Knight, J. (2006) *Higher Education Crossing Borders: A Guide to the Implications of the General Agreement on Trade in Services (GATS) for Cross-border Education*, A Report Prepared for the Commonwealth of Learning (COL) and UNESCO, Vancouver and Paris.
- Larsen, K. and S. Vincent-Lancrin (2002), "International Trade in Educational Services: Good or Bad?", *Higher Education and Management Policy*, Vol. 14, No. 3.
- Larsen, K., J. P. Martin, and R. Morris (2002), "Trade in Education Services: Trends and Emerging Issues", OECD Working Paper, May 2002, OECD, Paris.
- Marchetti, Juan A. (2004) *Developing Countries in the WTO Services Negotiations*, Staff Working Paper ERSD-2004-06, 20th September 2004, Economic Research and Statistics Division, World Trade Organization, Geneva.
- Marko, M. (1998) *An Evaluation of the Basic Telecommunications Service Agreement*, Policy Discussion Paper No. 98/09, Centre for International Economic Studies, University of Adelaide, Australia.
- Mattoo, A. (1998) *Financial Services and the World Trade Organization: Liberalization Commitments of the Developing and Transitional Economies*, Mimeo, World Bank editions.
- Mattoo, A., Rathindran, R. and Subramanian, A. 2006. "Measuring Services Trade Liberalization and its Impact on Economic Growth", *Journal of Economic Integration*, Vol. 21, No. 1, pp. 64 – 97
- Mattoo, A. (2005), *Services in a Development Round – Three Goals and Three Proposals*, Policy Research Working Paper No. 3718, September 2005, World Bank, Washington D.C.
- McGuire, G. (2002), *Methodologies for Measuring Restrictions on Trade in Services*, Paper presented at the OECD-World Bank Services Experts Meeting, OECD, Paris, 4-5 March.

- McGuire, G. and Schuele, M. (2000), "Restrictiveness of International Trade in Maritime Services" in Findlay, C. and Warren, T. (eds.), *Impediments to Trade in Services: Measurement and Policy Implication*, Routledge, New York
- NASSCOM (2005) *The IT Industry in India: Strategic Review 2005*. NASSCOM, New Delhi.
- Nguyen, D. H. (2000) *Restrictions on Trade in Professional Services*, Productivity Commission Staff Research Paper, Ausinfo, Canberra.
- Nielson, Julia and Daria Taglioni (2004), *Services Trade Liberalisation: Identifying Opportunities and Gains*, Trade Policy Working Paper No 1, OCED, Paris
- NIEPA (2002) *Trade in Education Services under the WTO Regime: A Proposal of India*, Mimeo, National Institute of Educational Planning and Administration, New Delhi
- NIEPA (2004) *Internationalisation of Higher Education: Issues and Concerns*, Conference Proceedings, National Institute of Educational Planning and Administration, New Delhi
- NIEPA (2006) *Privatization and Commercialization of Higher Education*, Conference Proceedings of National Seminar dated May 2, 2006, National Institute of Educational Planning and Administration. New Delhi.
- OECD (2002a) *The Growth of Cross-Border Education, Education Policy Analysis*, Chapter 4, Organization for Economic Cooperation and Development, Paris.
- OECD (2002b) *Trade in Educational Services: Next Steps*, Doc. No. JT00132012, DEELSA/ED/CERI/CD, Organization for Economic Cooperation and Development, Paris.
- OECD (2004) *Internationalization and Trade in Higher Education: Opportunities and Challenges*, Organization for Economic Cooperation and Development, Paris.
- OECD (2005) *Growth in Services: Fostering Employment, Productivity and Innovation*, Meeting of the OECD Council at Ministerial Level, Organization for Economic Cooperation and Development, Paris
- OECD-CERI (2002a) *Current Commitments under the GATS in Educational Services*, Washington, D.C.
- OECD-CERI (2002b) *Indicators on Internationalisation and Trade of Post-Secondary Education*, Organization for Economic Cooperation and Development, Paris.
- Rahman, M. (2000), *Bangladesh-India Bilateral Trade: An Investigation into Trade in Services*, Prepared under South Asia Network of Economic Research Institute (SANEI), Centre for Policy Dialogue, Dhaka.
- Raychaudhuri, A. et al. (2003), *Trade Potential of South Asian Economies Under The New Global Trade Regime: The Role of Some Non-Price Factors – A Case Study of India, Bangladesh, and Sri Lanka*, Final Report on SANEI-III Project.
- RBI (2005) *India's Invisibles*, Division of International Finance, Department of Economic Analysis and Policy, Reserve Bank of India (RBI), Mumbai
- RIS (2006) *World Trade and Development Report 2006*, Research and Information System for Developing Countries (RIS), New Delhi.
- Robinson, S., Z. Wang and W. Martin (1999) *Capturing the Implications of Services Trade Liberalization*, Paper Presented at the Second Annual Conference on Global Economic Analysis, Ebberuk, Denmark, June 20-22.
- Rudner, M. (1997) "International Trade in Higher in Higher Education Services in the Asia Pacific Region", *World Competition*, Vol. 21, No.1, pp 88-116.

- Sahni, R, and S. Kale (2004) "GATS and Higher Education: Some Reflections", *Economic and Political Weekly*, Vol. 39, No. 2, pp. 2174-2180
- Saner, R. and Sylvie F. (2003) "Negotiating Trade in Educational Services within the WTO/GATS Context", *Aussenwirtschaft*, Vol. 59. Jahrgang (2003), Heft II, Zürich: Rüegger, S. 275–308
- Tilak, J. B.G. (2005) "Higher Education in Trishanku", *Economic and Political Weekly*, Vol. 40, September 10, pp. 4029-4037.
- UNCTAD (2005) *Handbook of Statistics CD ROM 2005*, United Nations, Geneva
- UNESCO (2005) *Research on Public Good and the Impact of Transborder Higher Education*, Available at <http://portal.unesco.org/education>
- UNESCO-OECD (2005) *Guidelines for Quality Provision in Crossborder Higher Education*, UNESCO and OECD, Paris.
- Verikios, G. and X. Zhang (2000) *Sectoral Impact of Liberalising Trade in Services*, Paper Presented at the Third Conference on Global Economic Analysis, Melbourne, June 27-30.
- Warren, T. (2000) "The Impact on Output of Impediments to Trade and Investment in Telecommunications Services," in Findlay, C. and Warren, T. (eds), *Impediments to Trade in Services: Measurement and Policy Implications*, Routledge, New York
- Warren, Tony and Christopher Findlay (1999), *Measuring Impediments to Trade in Services*, CIES Discussion Paper No. 99/19, September 1999, Centre for International Economic Studies, University of Adelaide, Adelaide.
- Whalley, J (1985) *Trade Liberalization among Major World Trading Areas*. Cambridge Mass: MIT Press.
- Whalley, J (2000) *What can the Developing Countries Infer from the Uruguay Round Models for Future Negotiations*, Policy Issues in International Trade and Commodities, Study Series No.4, UNCTAD, New York and Geneva.
- World Bank (2003) *A Policy Note on the Grant-in-Aid System in Indian Education*, South Asia Human Development Sector Report No. 3. World Bank, New Delhi.
- World Bank (2005), *World Development Report*, Washington, D.C.
- World Bank (2006), *World Development Indicators CD ROM 2006*, Washington, D.C.
- WTO (2001) *Guide to the GATS: An Overview of Issues for Further Liberalisation of Trade in Services*, World Trade Organisation, Kluwer Law International, The Hague
- WTO (2003) *World Trade Report 2003*, World Trade Organisation, Geneva
- WTO (2006) *World Trade Report 2006*, World Trade Organisation, Geneva

Appendix 1: Questionnaire for Primary Survey

Questionnaire to Higher Education Institutions in India

Sr. No

--	--	--

Region: Bangalore / Chennai / Delhi / Kolkata /
Mumbai / Any other _____ (specify)

1. Identification of the Service Provider

1.1. Name of the Organization: _____

1.2. Address of the Organization:

Telephone: _____ Fax: _____

Mobile: _____ Email: _____

Website (if any): _____

1.3. Name of the Respondent: Mr/Ms/Mrs _____

1.4. Designation of the Respondent: _____

1.5. Name of the Enumerator: Mr/Ms/Mrs _____

1.6. Date of Survey: _____

For Office Use Only:

- Cooperation of respondent: Good / Moderate / Poor
- Reliability of information: High / Moderate / Poor / Very Poor
- Report Collected: Yes / No, If yes, describe it _____

Reviewed by: _____ Date: _____

If sent back for verification/correction:

Verification done: Yes / No If yes, date of verification: _____

Verified by: _____ Date: _____

2. General Information

2.1 Name of the University/Institution: _____

2.2 Type of the University/Institute: (please ✓)

Central []

Deemed []

State [] (a) Self Financing [] (b) Public Funding []

Private []

Institute of National Importance []

Conventional []

Medical []

Technical []

Language []

Agricultural []

Law []

Open University []

Any Other (Please Specify) [] _____

- 2.3 Year of Establishment _____
 2.4 Name of the Vice Chancellor/ Director/ CEO: _____
 2.5 Name of the Registrar/ Administrative Officer: _____
 2.6 Annual Budget of the University/Institute (Unit: _____ Crore / Lakh)

Year	Budget
2000-2001	
2001-2002	
2002 – 2003	
2003 – 2004	
2004 – 2005	
2005 – 2006	

2.7 Annual Intake of Students

Year: 2006 (Ongoing)

	No of Indian Student	No of Foreign Student	No of South Asian Student	No of Europe and US Student
Undergraduate				
Postgraduate				
Integrated Master's Degree				
M.Phil				
PhD				
Any other (Please specify)				

Year: 2000

	No of Indian Student	No of Foreign Student	No of South Asian Student	No of Europe and US Student
Undergraduate				
Postgraduate				
Integrated Master's Degree				
M.Phil				
PhD				
Any other (Please specify)				

- 2.8 No. of Schools / Departments / Centres / Units: _____ (as on _____ 2006)
 2.9 No of faculty members: _____ (as on _____ 2006)
 2.10 No of research scholars: _____ (as on _____ 2006)
 2.11 No of foreign students

Year: 2005

Year	Exchange Program		Self-funded		Scholarship		Any other (please specify)	
	Developed Countries	Developing Countries	Developed Countries	Developing Countries	Developed Countries	Developing Countries	Developed Countries	Developing Countries
2006								
2005								
2004								
2003								
2002								
2001								
2000								

Year: 2000

Year	Exchange Program		Self-funded		Scholarship		Any other (please specify)	
	Developed Countries	Developing Countries	Developed Countries	Developing Countries	Developed Countries	Developing Countries	Developed Countries	Developing Countries
2006								
2005								
2004								
2003								
2002								
2001								
2000								

2.12 Preference of Foreign Students in 2005

	Course Specification	Use '✓'
Medical		
Management		
Engineering		
Social science		
Physical science		
Arts and literature		

2.13 Cost of Study (University/Institution charges per student per year)

Year: _____ (please specify)

	Course Specification	Costs per Year (Rs.)	
		Foreign Student	Indian Student
Medical			
Management			
Engineering			
Social science			
Physical science			
Arts and literature			

2.14 Do you provide any concession in tuition fees to foreign students?

	Course Specification	Use '✓'
South Asia (SAARC)		
Southeast Asia		
Northeast Asia		
Australia and Pacific		
Africa		
West Europe		
East Europe		
Latin America		
North America		

2.15 Facilities provided to foreign students at your University / Institution (use '✓')

	Free	Priced
On-campus accommodation		
Private accommodation		
Library		
Internet access		
Reprographics services		
Cafeteria		
Telephone		
Food		
Personal computer		
Work station		
Any other		

3. Trade in Higher Education Services

3.1 Please specify income of your University / Organization from education services for foreign students.

Year: 2005

Category	Income (Rs.)	
	Overseas	Domestic

Year: 2003

Category	Income (Rs.)	
	Overseas	Domestic

Year: 2000

Category	Income (Rs.)	
	Overseas	Domestic

3.2 Do your university / institution has any overseas branch? If Yes, please fill up following.

Country	Courses / degree offered	Starting Year	No of Student

3.3 Do your university / institution has any joint venture with foreign affiliate? If yes, please fill up following.

Name of Foreign Partner(s)	Courses / degree offered	No of Student	Starting year	Country(s)

4. Barriers to Trade in Higher Education Services

This part of the questionnaire to be answered by a foreign student

4.1 What are the deficiencies of the University / Institution?

	Use '✓'
High cost of study	
High cost of living	
Difficulty in sending / receiving funds from abroad	
Delay in opening bank account	
High cost of communication	
Campus violence	
Lack of necessary study materials	
Delay in award of degree	
Poor quality of faculty members	
Lack of laboratory / research facilities	
Problem of equivalence of degrees	
Lack of access to admission tests facilities	
Language barrier	

This part of the questionnaire to be answered by original respondent

4.2 What are the barriers do you think prohibiting your university / organization providing improved education services to foreign students? (Use '✓')

	In India	In Abroad
Government regulations		
Market access		
Course contents		
Recognition of degree		
Visa		
Insurance		
Bank		
Communication		
Common admission test facility		
International standard hostel		

*Appendix 2: List of Sample Institutions / Authorities
Surveyed*

No	City	Name
1	New Delhi	Ministry of External Affairs, Government of India
2	New Delhi	Indian Council of Cultural Relations
3	New Delhi	Indian Institute of Technology
4	New Delhi	Jawaharlal Nehru University
5	New Delhi	Indian Institute of Foreign Trade
6	New Delhi	Indira Gandhi National Open University
7	New Delhi	AMITY University
8	New Delhi	Delhi University
9	Kolkata	Indian Institute of Management
10	Kolkata	Indian Statistical Institute
11	Kolkata	Indian Institute of Technology
12	Kolkata	Jadavpur University
13	Kolkata	Calcutta University
14	Kolkata	Viswa Bharati University

Appendix 3: Panel Regression (Fixed Effect) Results

Least Squares with Group Dummy Variables
 Ordinary least squares regression Weighting variable = none
 Dep. var. = LIMSA Mean = 9.860915241, SD = 1.863330852
 Model size: Observations = 50, Parameters = 13, Degree of Freedom = 37
 Residuals: Sum of squares=0.5668993169, SD = 0.12378
 Fit: R-squared= 0.996668, Adjusted R-squared = 0.99559
 Model test: F [12,37] = 922.23, Prob. value = 0.00000
 Diagnostic: Log-L = 41.0430, Restricted (b=0) Log-L = -101.5601
 LogAmemiyaPrCr.= -3.947, Akaike Info.Crt.= -1.122
 Estd. Autocorrelation of e(i,t) 0.016120

Variable	Coefficient	Standard Error	t-ratio	P[T >t]	Mean of X
LPCY	4.155659275	1.1773062	3.530	0.0009	10.174417
LSCH	1.396903889	0.44731815	3.123	0.0031	4.0253530
LPRCOLI	-2.411646724	0.99539802	-2.423	0.0193	4.3941754

Estimated Fixed Effects

Group	Coefficient	Standard Error	t-ratio
1	-25.69013	8.17767	-3.14150
2	-25.95603	7.97369	-3.25521
3	-25.24764	7.74908	-3.25815
4	-26.81399	7.93109	-3.38087
5	-25.64497	7.98343	-3.21227
6	-27.69246	8.49954	-3.25811
7	-28.06128	7.74522	-3.62305
8	-29.26828	7.99801	-3.65944
9	-30.10404	8.04302	-3.74288
10	-29.98445	8.38765	-3.57483

Test Statistics for the Classical Model

Model	Log-Likelihood	Sum of Squares	R-squared
(1) Constant term only	-101.56014	0.1701280914D+03	0.0000000
(2) Group effects only	9.10981	0.2033490358D+01	0.9880473
(3) X - variables only	-94.00708	0.1257667589D+03	0.2607525
(4) X and group effects	41.04299	0.5668993169D+00	0.9966678

Hypothesis Tests

	Likelihood Ratio Test			F Tests			
	Chi-squared	d.f.	Prob.	F	num.	denom.	Prob value
(2) vs (1)	221.340	9	0.00000	367.392	9	40	0.00000
(3) vs (1)	15.106	3	0.00173	5.408	3	46	0.00285
(4) vs (1)	285.206	12	0.00000	922.234	12	37	0.00000
(4) vs (2)	63.866	3	0.00000	31.907	3	37	0.00000
(4) vs (3)	270.100	9	0.00000	907.940	9	37	0.00000

Random Effects Model: $v(i,t) = e(i,t) + u(i)$

Estimates: $\text{Var}[e] = 0.153216\text{D}-01$
 $\text{Var}[u] = .412108\text{D}+01$
 $\text{Corr}[v(i,t),v(i,s)] = 0.996296$
Lagrange Multiplier Test vs. Model (3) = 96.29
(1 df, prob value = 0.000000)
(High values of LM favor FEM/REM over CR model.)
Fixed vs. Random Effects (Hausman) = 11.91
(3 df, prob value = 0.007690)
(High (low) values of H favor FEM (REM).)
Re-estimated using GLS coefficients:
Estimates: $\text{Var}[e] = 0.200754\text{D}-01$
 $\text{Var}[u] = 0.460768\text{D}+01$
Sum of Squares 0.140692D+03
R-squared = 0.173021D+00