Higher Educational Services Exports: Sources of Growth of Asian Students in US and UK

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First submitted: August 2006
Revised May 2008

Paper submitted to:

Services Business: An International Journal

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Abstract

The paper reviews the recent trends and current developments in the global higher education market with a particular focus on growth of Asian students studying in US and UK. Using pool cross section-time series data over the 1985-2003 period, it is found that different factors affect students from different countries differently. This suggests that the marketing strategies of offshore higher education providers need to be tailored to the specific needs of different markets in order to be successful. The emergence of a number of new players in the higher education export market is also rapidly becoming a major threat to the traditional higher education service exporters.

Keywords: Education Export, Asia, Services Trade.

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1. Introduction:

International student mobility is not a recent phenomenon and has been traced back to as far the 4th century B.C. when people moved from one region to another in pursuit of knowledge and wisdom from renowned masters located in so called centres of learning (Cardinale, 2000, Williams, 1981). Overtime, however, although the concept has not changed much, the scale of the phenomenon has evolved rapidly. Developments in land, sea and air transportation in the early 1900 made it easier for a greater number of people to travel overseas for educational purposes. Although no precise historical data is available, evidence suggests that the number of international students overseas continued its steady increase during the 1960s and 1970s as transportation became faster, more convenient and more affordable to a larger number of people. It is noteworthy to point out that up to the mid 1960s, the vast majority of students pursuing higher education overseas did so on a non commercial basis under the auspices of the 'foreign aid' programs of advanced industrialised countries to train students from developing countries.

The higher education sector in advanced industrialised countries experienced its first economic shock in the early 1980s following a wave of economic restructuring and deregulation in most of these countries. Public higher education providers in UK, for example, experienced severe financial restraint and were made more accountable for their existence (Phillips, 2001). As a general response to this new environment, higher education providers were forced to become more commercially oriented by offering places to foreign students on a fee paying basis. Thus, the early 1980s saw the first major influx of foreign students into the main English speaking countries, including US, UK, Canada and Australia, particularly from Asia where the demand for higher education far exceeds the availability of places (Kaufman and Goodman, 2002; Larsen and Vincent-Lancrin, 2002b). Rapid and sustained economic growth during the 1980s also contributed to the growing trend for students to travel overseas for higher education thus leading to what Dore (1976) called the "Diploma Disease".

The number of international students continued its steady growth well into the early 1990s and early 2000 when the industry experienced its next shock mostly from changes in its external environment. This time education providers were faced with unprecedented developments and diffusion of information and communication technologies coupled with increasing pressure from the World Trade Organisation (WTO) to liberalise trade in services and growth in the activities of multinationals leading to the internationalisation of labour markets. The combination of these forces together with a decade of continuing rapid economic growth in many parts of the world saw an almost exponential growth in the number of international students in higher education institutions worldwide. The data in table 1 shows that today, the global higher education sector is a multi billion dollar industry.

Table 1: Significance of Global Trade in Education Services: selected years.

	1980	1990	1995	2000	2004	2005
No. Students studying overseas (million)	0.993	1.2	1.3	1.8	2.3	2.7
(avg annual growth: %)	(n/a)	(2.1)	(1.7)	(7.7)	(6.9)	(17.4)
Value of global education market[1] (US$ bil)	n/a	6	24	43	60	65
Total value of global services trade (US bil.)	822	1691	2479	3045	4358	5508*
(avg. annual growth: %)	n/a	(10.6)	(9.3)	(4.6)	(10.8)	(10.9)
Total value of merchandise trade (US$ bil.)	4108	7103	10393	13068	18219	24368*
(avg annual growth: %)	na	(7.2)	(9.2)	(5.1)	(9.8)	(16.8)
Higher Education as % of services trade	n/a	0.3	0.9	1.5	1.4	1.3

Source: UNESCO Statistical Yearbook, OECD Education Database; UNCTAD (2007).

[1] *Estimates based on Larsen et al (2002) estimates of the global market for education and assuming an average annual change in based on the International Handbook of Universities published by the International Association of Universities in association with UNESCO.*

* data for 2006.

Based on OECD's estimation that trade in higher education accounts for 3% of global services exports (Vincent-Lancrin, 2005), we calculate that the global higher education sector was worth around US$60 billion in export revenues in 2004. It is estimated that approximately 2.3 million foreign students were enrolled in higher education institutions worldwide in 2004 (based on OECD 2003 data) compared to less than 1 million in 1980 (UNESCO, 1982). In 2004, the US, UK, Australia, Canada and New Zealand accounted for approximately 60 percent of all international students (based on OECD 2003 data). These countries have been particularly successful at

exporting education and have benefited from a high demand for English based qualifications with English being the world's dominant language and the current language of international business. On a regional basis, Asia constitutes the main source of international students (45 %), followed by Europe (30%, with EU(18%)), Africa (11%), North America (6%) and Latin America (4%). Within Asia, China and India are the largest markets for international students, followed by Japan, South Korea and Malaysia.

Despite the economic significance of higher education as an export sector and its rapid growth over the last two decades, this sector remains under researched from business academics. In particular, the dynamics of this sector are poorly understood and therefore limit the ability of higher education service providers in responding positively to changes in the competitive landscape. This paper attempts to fill this knowledge gap by briefly reviewing the evolution of the global higher education sector, its stages of internationalisation and then empirically investigates the main drivers of growth in international student mobility to the US and the UK with a particular focus on Asian markets. Given that the globalisation of higher educational services is a recent phenomenon, the scope of this paper is constrained by the availability of reliable data.

2. Stages of Internationalisation of Higher Educational Services

The evolution of the global higher education market from an underdeveloped industry dominated by a few English speaking countries to a mature export oriented sector comprising a more diverse number of players can be broadly summarised into four stages. These are:

(i) Passive Indirect Export : Pre 1970s.

This stage is characterised as the passive export stage when the higher education industry relied almost entirely on foreign students from low income countries studying on exchange and aid programs of advanced industrialised countries (Smart and Ang, 1993). Examples of such programs include the Colombo Plan, Fulbright and Marshall Plans, the Special Commonwealth Aid to Africa Plan (SCAAP) and others. During this period, higher education providers did not actively seek foreign students and did not engage in any aggressive marketing of their

programs overseas to attract foreign students. Rather the domain of hosting foreign students during this period remained concentrated within a few higher education institutions in selected advanced industrialised countries (e.g. US, UK, France, USSR) renowned for their academic excellence in science, medicine and engineering mostly. Little consideration was given to higher education as an export sector with considerable revenue potential during this period.

(ii) Direct Export Stage: Mid 1970s-mid 1980s.

This period experienced rapid growth in the number of international students in higher education institutions worldwide following an aggressive push by higher education institutions in industrialised English speaking countries to open their doors to foreign students on a commercial basis for the first time (Kwiek, 2001). During this period, higher education in US, UK, Canada, Australia and New Zealand, for example, became more widely accessible to a larger number of international students as competition among higher education institutions in these countries increased following the realisation of the export potential of higher education (McMahon, 1988). Institutions from the five English speaking countries embarked on an aggressive promotion program to attract foreign students from mostly the rapidly growing Asian and Latin American countries to their campuses. This period also coincided with an increasing pace of globalisation; rapid economic growth in many middle income countries and greater participation in the international economy by newly emerging countries from Asia, South America, and Eastern Europe. Together, these factors contributed to the rapid increases in the number of international students studying overseas on a fee paying basis and marked the beginning of the higher education export industry (Bennel and Pearce, 2003; Chen and Barnett, 2000; Mazzarol and Soutar, 2002). Exporting higher education from the home base remained the main mode of exporting up to this point but as home campuses gradually reached full capacity, exporters started to explore other growth strategies.

(iii) Strategic Export Growth: 1985- 2000

During this period the competitive landscape in the global higher education sector started to become more transparent allowing the major players to have a better understanding of the nature and scope of competition in this emerging sector (Davis, 2002). As a result, the major higher education providers from the US, Canada, UK

and Australia adopted new internationalisation and growth strategies. These included a gradual shift away from direct exporting from the home base to engaging in transnational education mainly in the form of joint ventures with local higher education providers in offshore markets (e.g. franchise programmes and joint degrees) and the establishment of twinning programs on a reciprocal basis (Davis, 2002). Table 2 highlights the important features of the different forms of transnational education.

Table 2: Types and Salient Features of Different Modes of Transnational Education

Type	Salient Features
Franchise Programmes	- Educational programmes move not the institutions - Program supervision and quality check by the foreign institution
Programme Collaboration/Joint Degrees	- Programs partly move not the institutions - Joint education programs of domestic and foreign institutions - Teacher exchange
Twinning Programmes	- Recognised credit transfer arrangements between domestic and foreign institution - Program is split in two parts: a part to be completed at the domestic institution and rest at the foreign institution - Institutions do not move. Students move to the foreign institution to complete part of the program
Offshore Campus	- Program as well as institution move - Design of curricula, faculty recruitment and development is generally the responsibility of the foreign institution

Source: Adapted from Bhushan (2006)

These initiatives allowed more students to stay at home and study for a foreign degree and quickly became popular because they substantially reduced the cost of education to prospective students. These arrangements made higher education from the West more accessible and affordable to an ever larger number of students. The number of joint ventures and twinning programs between US, UK, Canadian and Australian Universities and foreign institutions in Asia, Latin America and Europe in particular increased rapidly during this period (Altbach, 2007). Although joint

ventures and twinning programs in higher education often involves challenges related to quality and delivery of programs, this mode of foreign expansion increased rapidly as higher education providers worldwide attempted to take advantage of the growing market for international students. In two of the biggest markets for transnational education; India and China, there were respectively 131 and 164 such transnational programs in 2004 (Bhushan, 2006; Feng, 2006)

(iv) Export Maturity: 2000-present

The opening of offshore campuses represents the latest mode of entry and expansion into foreign markets for higher education (Vincent-Lancrin, 2005b). Up to the mid 1990s, offshore campuses were generally regarded as high risk ventures emanating from a general lack of local market knowledge, high barriers to entry for foreign service providers and logistical difficulties in ensuring quality service delivery. However, by the late 1990s, these constraints had become less relevant as globalisation intensified the pace of market deregulation and liberalisation and advances in information and communication technologies became more widely diffused, accessible and affordable. And, together with greater local market knowledge and greater experience with foreign students, a number of higher education institutions started to open offshore campuses to service prospective students offshore. To date, approximately 81 such campuses have been identified in 36 different countries (see table 3) with the US accounting for 42 wholly owned and operated campuses overseas, Australia (10); UK (4) and Canada (3) (OBHE, 2006). The information in table 3 also suggests that the traditional exporters (US, UK, Australia, Canada and NZ) are not necessarily the most dominant in establishing a local presence in the markets that they service. In fact, New Zealand Universities do not operate any offshore campus while several new players are rapidly expanding offshore in a number of markets. Examples include like India (5), Ireland (4), Netherlands (2), the Philippines (2) and Pakistan (2) each operate multiple offshore campuses. The Universidad Adolfo Ibanez from Chile is another interesting example of a Latin American University, a region that has previously not been active in offshore education, opening a branch in Miami in 2006 for its MBA programme[i]. A total of 12 new players have been identified as having offshore campuses. Another interesting fact is that most of the new players with offshore higher education campuses are themselves net importers of education services. Additionally, it is

interesting to note that the United Arab Emirate (UAE) alone hosts 16 different higher education campuses and together with Qatar and Jordan, the Middle East alone is home to 25 international higher education providers. Asia accounts for 19 international campuses while Western Europe accounts for 10 such campuses.

Table 3: Main Exporters and location of offshore Campuses in 2005.

Exporter / Location	USA	Aust	India	Ireland	UK	Can	Nether	Phil	Pak	Other	Total
Canada	4	1									5
S Africa		1					1				2
Malaysia		3		1	1						5
UAE	3	1	4	1	2	2			1	2	16
Vietnam		1						1			2
Singapore	2	2	1							1	6
Qatar	5					1	1				7
Ecuador	1									1	2
Indonesia								1		1	2
China	3				1						4
Jordan	2										2
Mexico	2										2
Nether	2										2
UK	2										2
Others	16	1		2					1	2	22
Total	42	10	5	4	4	3	2	2	2	7	81

Source: OBHE (2006)

In summary, the above narrative highlights that the higher education sector has evolved rapidly from a small non export oriented industry to one which is mature and aggressively pursuing export as a growth strategy. The process of internationalisation has been aided simultaneously by developments in information and communication technologies as well as services trade liberalisation and deregulation. As a result the competitive landscape has experienced unprecedented change in recent years with the traditional 5 English speaking higher education exporters (US, UK, Canada, Australia and NZ) facing greater competition from a number of new entrants. Nevertheless, these countries remain by far the dominant exporters of higher education while Asia continues to be the single largest source of international students, accounting for approximately 45% of all international students in 2004.

3. Sources of Growth in International Educational Services: Focus on Asian students in US and UK.

With the changing dynamics in the international education market place, incumbent education exporting countries cannot afford to be complacent about their competitive advantages. Instead, they need to be proactive about understanding the factors which influence international student mobility in order to sustain and strengthen their share of the "academic trade" market (McMahon, 1988). To date, few attempts have been made to understand the drivers of international student mobility. Lulat and Cordaro (1984), for instance conducted a comprehensive bibliography of the literature on foreign study and found very few studies that have investigated the drivers behind international student mobility. Post 1984, through a broad review of both the business and education literature, we found a similar dearth of research on the drivers of international student. Furthermore, much of the research undertaken on international students has been from an educational perspective focusing on curriculum development and delivery issues as well as cross-cultural, psychological and adjustments issues (Altbach, 1991; Bourke, 2000). However, recent rapid growth in education trade, its economic significance for exporting economies and the emergence of the knowledge economy have all contributed in attracting the attention of researchers to developments in this sector. Several studies have attempted to explain the drivers of international student mobility but these have tended to focus on education exporting countries rather than on the education importing countries (Altbach, 1991). For example, most studies have focused on the supply side by considering how service suppliers can improve the commercialisation of their respective educational services rather than focus on the demand side to understand what influences potential consumers of educational services (Brennan, 2001). It is this gap that this section seeks to bridge.

The modelling approach adopted in this paper follows Altbach (1991), Mazzarol and Soutar (2002) and Naidoo (2005) who consider both demand and supply side factors in trying to understand the factors which influence international student mobility. These include factors at different levels –individual, institutional, national and international, which together create the patterns of international student mobility (McMahon, 1988). The demand for higher education services by students in country *i* from providers in country *j* is specified as:

$$ENROL_{ij,t} = \alpha + \beta_1 ACCESS_{it} + \beta_2 FEES_{jt} + \beta_3 EXRT_{ij,t} + \beta_4 INCOME_{it} + B_5 GLOBAL_{it} + \beta_6 D_{USA} + \varepsilon_{ij} \quad [1]$$

where:

β_i	are regression coefficients with $\beta_1 < 0$, $\beta_2 < 0$, $\beta_3 < 0$, $\beta_4 > 0$ and $\beta_5 > 0$.
ENROL	is the dependent variable and measures the headcount of the number of international students from country *i* studying in country *j* at time t.
ACCESS	is a measure of degree of access to domestic higher education opportunities in importing country *i*.
FEES	is the tuition fees encountered by an international student studying in country *j*.
EXRT	is the bilateral exchange rate between country *i* and *j*.
INCOME	is the per capita income in importing country *i*.
GLOBAL	is a measure of openness that importing country *i* has to the global economy.
D_{USA}	is a dummy variable coded as 1 for the international student mobility to the United States and 0 otherwise.

The dependent variables include:

(1) ACCESS*:* Faced with limited access and prospects for domestic higher education opportunities, students tend to look at overseas institutions as an alternative (Altbach, Kelly and Lulat, 1985). Larsen and Vincent-Lancrin (2002b) for instance, found that in most developing countries, higher education institutions can only accommodate less than 5% of those who demand post-secondary education. In China for example, some five million high school students passed the University entrance examinations in 2001 and yet Chinese universities could accommodate less than half of that number (Kaufman and Goodman, 2002). Larsen and Vincent-Lancrin (2002b) added that the shortage of higher education institutions in developing countries is likely to increase in the future as the internationally–driven goal of providing basic education for all is progressively achieved. ACCESS is measured as enrolment in higher education country *i* as a proportion of the total student population in that country. Thus, as access to higher education domestically improves, fewer students are likely to go offshore.

(2) FEES: Tuition fees act as a proxy for the price of education. The tuition fees paid by domestic students are usually subsidised by the state and do not reflect the full cost of education. For international students, however, the practice in most advanced industrialised countries has been to charge the actual non subsidised cost of providing education, although the marginal cost can actually be minimal (OECD, 2004). Thus, international fees are substantially higher than domestic tuition fees. Classical economic theory would suggest that tuition fees would be inversely related to the demand for higher education and indeed Campbell and Siegel (1967), Leslie and Brinkman (1987) and Heller (1997) found higher education demand in the US to be inversely related to the amount charged by institutions. Focusing more on international students, Agarwal and Winkler (1985) also found that the demand for higher education to be inversely related to its costs. Although data on tuition fees are publicly available, no comparable measures of international tuition fees charged by different institutions are available. The reason for this is that even within a single institution different programs have different and often complex international fee schedule and structure. In this study, we use the average tuition fees faced by a typical international student, deflated by the consumer price index [ii].

(3) EXRT: The effects of the exchange rate on trade are well established in the merchandise trade literature. Generally, the appreciation of the currency of an exporter relative to the currency of an importer results in the deterioration of the international competitiveness of the exporter. Theoretically, this should not be any different for trade in services, including higher educational trade. In the context of this study, it is hypothesized that there is a negative relationship between the real exchange rate (measured as the relative value of the exporting country's currency to the importing country's currency) and the number of international students from the importing country.

(4) INCOME: The ability to afford the cost of undertaking offshore studies is a critical element in the decision of whether to go overseas for higher education. This is increasingly a relevant factor as higher education becomes more commercialised thereby putting greater pressure on international students to become increasingly self-supported (Davis, 2002). As a result, students from relatively wealthy families are

more likely to study overseas (Cummings, 1984). Following Cummings (1984), we use GDP per capita on a Purchasing Power Parity (PPP) basis as a measure of income.

(5) GLOBAL: Globalisation and economic integration worldwide have created greater opportunities for human capital with a global mindset. Students trained in overseas higher education institutions are often seen as being more readily able of handling the challenges of operating in a global system and are also likely to be more linguistically and culturally versatile. Guoqing (2003), for instance, point out that in the rapidly internationalising Chinese economy, overseas study is increasingly becoming a must for its future workforce to be conversant with the practices of advanced Western countries. Indeed, by 'learning from foreigners', this future workforce will be equipped with "cultural capital" (Bourdieu and Passeron, 1977) and with proficiency in foreign languages, technologies and orientations of the industrialised western world (Altbach et al, 1985), skills that are all necessary to operate in a global economy. The extent to which a country is globally oriented has been linked to its trade and investment activities. As such, greater intensities of export, imports and investment activities suggest greater levels of global orientation. The variable GLOBAL is derived by aggregating country *i*'s openness to trade as a proportion if its gross domestic product (GDP). Openness to trade is measured as the sum of exports (X), imports (M), inward foreign direct investment (IFDI) and outward foreign direct investment (OFDI). Thus, GLOBAL is derived as follows:

$$Global_{it} = \frac{X_{it} + M_{it} + IFDI_{it} + OFDI_{it}}{GDP_{it}} \qquad [2]$$

It is argued that that the more open to both trade and FDI a country is, the more globally connected that country is and therefore the more likely its citizens will undertake studies overseas.

4. Data, Estimation and Discussion of Results

Given the dominance of the Asian region and the US and UK in the international higher education sector, equation (1) is estimated for international students from 7 Asian countries (China, India, Hong Kong, Malaysia, Singapore,

South Korea and Thailand) studying in two major host countries (US and UK). Together the two host countries and the 7 Asian countries accounted for approximately 40% and 42 % of all international students, respectively, in 2004 (based on OECD 2003 data). The decision to limit the analysis to these 7 countries was driven largely by the availability of consistent and reliable data for comparative purposes. For similar reasons, the period of analysis was limited to 1985-2003.

The data for the dependent variable was sourced from both the UNESCO's *Statistical Yearbooks* supplemented with the OECD's *Education Database,* for post 1999 period. The explanatory variables, were sourced mostly from the *World Development Indicators* which is an online database prepared by the World Bank. The *International Handbook of Universities* published by the International Association of Universities in association with UNESCO was also used as a secondary data source, particularly for the computation of a consistent series for tuition fees.

For the purposes of estimating equation (1), we pool the US and UK data over the 1985-2003 period giving a total of 38 observations. The use of pooled cross section time series technique is well established in the literature and has the advantage of providing greater degrees of freedom for analysis purposes when faced with limited data. The ordinary least squares regression results of the pooled cross section-time series models are summarised in Table 4. We estimated different models including various lag structures in both linear and non linear models. However, the most satisfactory results were from the simple OLS regressions presented in Table 4 judging by the various performance statistics, including the Adjusted R-Squares and the respective F-Statistics. Although autocorrelation was initially an issue, once corrected using the Yule-Walker procedure (Gujarati, 1988), the different models performed reasonably well as shown by the respective Durbin-Watson statistics. All variables also have the expected *a-priori* signs.

Table 4: Regression Results for Seven Asian Countries

	China	India	H Kong	Malaysia	Singapore	S Korea	Thailand
Intercept	139423	70270	32339	11170	14585	24680	-7201
(t -value)	*(5.7)***	*(2.9)***	*(5.4)****	*(0.44)*	*(5.5)****	*(5.4)****	*(1.4)*
ACCESS	-2676	-8450	-1006	-222	-317	-3011	-211
(t -value)	*(3.3)***	*(7.3)****	*(1.5)*	*(0.47)*	*(1.5)*	*(6.0)****	*(2.2)**
FEES	-552	-25	-83	-377	-108	-875	-442
(t -value)	*(1.5)*	*(1.3)*	*(2.5)***	*(1.4)*	*(7.3)****	*(3.9)****	*(0.35)*
XRT	-1614	-194	-1614	-273	-713	-133	-64
(t -value)	*(1.5)*	*(3.0)****	*(4.1)****	*(0.16)*	*(2.8)****	*(3.0)****	*(0.21)*
INC	5756	1554	1210	1318	1112	1666	3580
(t -value)	*(1.4)*	*(1.3)*	*(0.3)*	*(3.2)****	*(2.2)**	*(4.7)****	*(2.4)***
GLOBAL	2462	4958	2641	5740	4895	1083	6341
(t -value)	*(2.6)***	*(0.54)*	*(1.0)*	*(2.3)***	*(1.3)*	*(0.9)*	*(0.12)*
USDUM	31280	-1058	-2641	21135	2547	-17313	3839
(t -value)	*(2.5)***	*(0.14)*	*(1.7)*	*(4.0)****	*(3.9)****	*(2.2)***	*(3.0)****
Adj R^2	0.95	0.98	0.90	0.62	0.95	0.96	0.95
F-Value	69****	80****	31.5***	6.3	63***	95****	70****
DW	1.6	1.8	1.8	1.5	1.6	1.3	1.7
N	38	38	38	38	38	38	38

**** P<0.0001; *** P<0.01; ** P<0.05; * P<0.1

The results suggest that as domestic access to higher education increases, there is likely to be a corresponding sharp decline in students from places such as China, India, South Korea and Thailand which are among the most important sources of international students for higher education. The results for Hong Kong and Singapore are surprising because these two countries are known to suffer from very limited access to domestic higher education institutions. This perhaps reflect the fact that the culture in these countries is such that students value foreign educational experience to a greater extent and regardless of domestic access conditions, they still go overseas for higher education. In general, the results do confirm previous findings by Lee and Tan (1984) and Agarwal and Winkler (1985), that access to domestic higher educational facilities is a critical factor explaining the number of students who go overseas for higher education.

The second variable of interest in this study is the extent to which the global mindset in the country contributes towards the internationalisation of higher education. As countries become more involved in the global economy, more students are likely to study overseas. The results suggest that this is precisely what is happening in China and Malaysia where GLOBAL is statistically significant.

Surprisingly, however, GLOBAL was not significant for the other countries, although having the correct sign, possibly reflecting the fact that the time period (1985-2003) is not long enough to fully capture the extent of global integration experienced by these economies. By contrast, the Chinese economy has experience rapid global integration over this period as evidenced by rapid increases in both FDI and merchandise trade.

The level of tuition fees were significant for Hong Kong, Singapore and South Korea implying that higher tuition fees adversely affect the number of potential students from these countries. This confirms Agarwal and Winkler (1985) negative price elasticity associated with student enrolment for both domestic and international students. However, it is still interesting that students from both China and India are not responsive to changes in the level of tuition fees in the US and UK.

International Students from India, Hong Kong, Singapore and South Korea were more sensitive to changes in the exchange rate compared to the other countries; suggesting that as the US and UK currencies appreciate, student numbers from the countries above are likely to decline. The level of income was found to be statistically significant for students from Malaysia, South Korea, Singapore and Thailand.

Overall, the results suggest that different variables impact different countries differently and therefore the results cannot be generalised. This is important in that previous studies (e.g. Naidoo 2005) undertaken at a more aggregate level have tended to suffer from the generalisation weakness. The main finding from the analysis above is that domestic access to higher education is an important variable in influencing the flow of international students from China, India, S Korea and Thailand. The level of tuition fees is significant for students from Hong Kong, Singapore and South Korea, while the exchange rate is an important variable for students from India, Hong Kong, Singapore and South Korea. Income seems to be relevant only to Malaysia, Singapore, South Korea and Thailand, while global awareness is significant only for China.

5. Conclusion and Discussion of Main Findings

The higher education sector has experienced rapid growth during a relatively short period of time and has been transformed from a domestically non export oriented industry into a globally competitive sector. In 2007 international trade in educational services accounted for approximately US$ 65 billion and is likely to grow further as globalisation is embraced more widely and as barriers to the movement of

people, capital and ideas are further lowered. Further growth is also likely to come from the growing awareness that economic growth itself is intricately linked to investments in human capital and that an educated workforce is critical for sustained international competitiveness in an increasingly knowledge based global economy (Romer, 1986). In many countries, especially in developing ones, greater demand for higher education will likely be met through overseas study given their relatively underdeveloped higher education infrastructure domestically.

Numerous implications emerge from the trends above for higher education service providers. This paper has shown that the international competitive landscape has changed substantially during a short period of time. The dominant position held for a long time by the 5 English speaking countries (US, UK, Canada, Australia and NZ) in the export of higher education market has recently been challenged with the emergence of new players (e.g. Singapore, India). Indeed, a number of traditional importers of higher education are playing an increasingly important role in the export market as they modernise and upgrade their own infrastructure, establish centers of excellence in Sciences, Medicine and Technology to leapfrog the internationalisation stages of the traditional players. Examples include countries such as Singapore and Malaysia, which have invested heavily in higher education facilities as a strategy for becoming net exporters of higher education services within the next decade (Vincent-Lancrin, 2005b). Another example is China, the largest higher education importer, which also hosted about 110,000 foreign students from 178 countries in 2004 (China Scholarship Council, 2004) and is quickly becoming an attractive place for foreign nationals to study as it modernises its higher education sector and as it exerts greater influence on the global economy.

Another important finding is that different factors influence international student's from different countries differently. In China and India, for example, access to domestic higher education facilities are more important than in Malaysia and Singapore. Students from HK, Singapore and South Korea appear to be more sensitive to changes in tuition fees and the exchange rate while the domestic level of income was relevant in only four of the seven countries considered. Thus, in order to be successful in marketing education services in the various markets, it is important that

higher education providers customise their marketing strategies to the specific needs of the different markets.

The proliferation of offshore campuses is also likely to have major implications for the growth strategies of future education exporters. While the majority of offshore campuses are from the traditional exporters, it is also becoming apparent that several new players have emerged for the first time as serious competitors although the nature of competition itself is also likely to change. India, for example has established 5 offshore campuses within a very short period of time and is exploiting its global reputation as a leader in information and communication technologies to train people in this field (Bhushan, 2006). As such, India's strategy is to open niche centres of excellence which focuses on highly specialised skills which few others will be able to duplicate. Hence, future growth in offshore campuses is less likely to be on generic types of higher education. Rather, in order to be internationally competitive on a sustainable basis, offshore campuses will likely be highly specialised in specific areas where particular institutions build on their existing global reputation for excellence in these areas.

As with any research, this study has several limitations, the most important one being related to the data used for the analysis. This is mostly as a result of international educational service trade being a relatively new development and little historical data exists to allow for cross country or regional comparisons. The focus of the study is limited to the US and UK as the main host countries because of the lack of reliable time series data for some of the other major exporters of higher education, namely Canada, Australia and New Zealand. Ideally, the inclusion of these three additional countries would result in a more complete study and would allow for a better understanding of the dynamics of higher education trade. Unfortunately, the lack of reliable and consistent data prevents us from doing so. Similarly, the compilation of some of the statistical series need to be reconsidered. The data for tuition fees, for instance, is at best an aggregate estimate and does not reflect any particular institution. As tuition fees are known to vary greatly between different educational institutions, the use of aggregate data can lead to misleading findings and may explain the perverse behaviour of this variable in our models. Finally, potential areas for future research include investigating the patterns of foreign market expansion through

offshore campuses, and identifying and assessing more comprehensively what the drivers of growth are in the international higher education market and how these are changing with the proliferation of offshore campuses.

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[i] **W**e would like to thank one reviewer for pointing this out to us.

[ii] The variable FEES which captures the average level of tuition fees across higher education institutions was constructed using information from the *International Handbook of Universities* published every two to three years by the International Association of Universities in association with UNESCO. This source provides information on average tuition fee charged to international students at university-level institutions worldwide. With information about the higher educational institutions which received the majority of international students available for both the United States and HESA, through the IIE and the British Council respectively, it was thus possible for us to build a time series of the average tuition fee faced by international students in these two host countries, deflated by the respective consumer price indices (CPI).