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KOREAN EDUCATION AND FOREIGN DIRECT INVESTMENT: FOCUSING ON ENTRY MODES

ABSTRACT

Education is a key for economic advancement. Thus, this study provides an overview of South Korea's higher education system and its development to date. In doing so and by simultaneously analyzing Korea's Brain Drain Index and international university rankings comparatively, a number of issues are highlighted as unsatisfactory. In order to overcome the problems presented by the current system, this paper applies a comprehensive entry mode model to education-based foreign direct investment. A case study, benchmarking Singapore, highlights specific education policy amendments regarding liberalization that could also be applicable to the Korean education field, ultimately aiding economic advancement.

Key Words: brain drain, education, entry modes, FDI, Korea

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INTRODUCTION

It has been well documented that South Korea (hereby referred to as Korea) is a country with a tumultuous recent history, both politically and economically. According to the Korean Educational Development Institute (KEDI) and dubbed the ‘Miracle on the Han River,’ Korea has witnessed its GDP per capita rise from just USD 91.6 in 1961 to over USD 20,000 (21,653.4 to be exact) in 2007; its worldwide exports rise from a paltry USD 124 million in 1961 to almost USD 500 billion (491.15 billion) in 2008 (World Bank); and it has transitioned from one of the world’s poorest economies to the world’s 13th largest economy (U.S. Department of State) and an I.T. powerhouse (Korea Times, 2007), under both military dictatorship-regimes (1963-1993) and democracy-based systems (1993-present). In order to develop the nation in such a dramatic fashion, education has continuously been given a high priority in terms of policy creation, and as the current Minister of Education, Science and Technology (MEST, www.mest.go.kr), Byong-Man Ahn (2010), stated in his New Year’s message in 2010, “Having a systematic training strategy, the government will foster world-class advanced talented people for the growth driver of the future. To achieve this, the government will expand its support for excellent universities and graduate schools.”

The current President, Myung-Bak Lee, and his ruling conservative party, the Grand National Party, have, therefore, placed an emphasis on education, understanding that it is an issue that ultimately affects the future of the nation. Since being elected, President Lee has proposed a number of changes to the country’s education system. Initial proposals, such as the nationwide English-immersion program (Hankyoreh, 2008), were highly criticized by teachers, who claimed that President Lee was ignoring the underfunding of education in regions outside of the Seoul area and merely making education more appealing to the upper classes (Korean Teachers and Education Workers’ Union). In light of such widespread criticism the Government has re-reviewed education policy and recently, the MEST (2009) released its major policies and plans for 2010. They include, but are not limited to, offering a diverse range of schooling options, improving education welfare opportunities, corporatizing national universities and improving R&D funding. Perhaps the most significant of changes are those to the range of schooling options and the corporatization of national universities, and thus these will be looked at in more detail later in this paper.

However these changes are implemented, it is clear that further liberalization of the Korean education system will signify a change in the instruments used to obtain an education (Kim, 2007). Currently, the education landscape in Korea is vast and complicated as parents already utilize a mixture of public school education coupled with a wide array of private institutions (hakwons), the cost of which places a massive financial burden on parents. Yet, as reported in the Korea Times (2009), the majority of Korean people continue to view the educational environment as insufficient. Therefore, it can be surmised that although the Korean population present a highly sophisticated level of demand, their demands are clearly not being met with enough urgency. As such, when a country is unable to produce specific goods for which there exists a demand, trade and/or foreign direct investment (FDI) can be implemented. Especially, Multinational corporations (MNCs) prefer FDI when they find that external markets are not efficient (Moon, 2004). Thus, perhaps it is time for Korea to turn to other means to satisfy the population's needs.

This paper will first focus on the educational background in Korea, as it is essential to grasp a basic understanding of the history of Korean education, its evolution and structure. Through this we can achieve an understanding of the level of demand for high quality educational facilities. Secondly, analyzing Korea's Brain Drain Index (BDI) and Korean universities' ranking in the world, and their effects will reflect current trends and issues in the educational environment. Thirdly, a comprehensive FDI entry mode model, debuted by Moon (1997), will be employed in order to construct a number of entry modes for education FDI. Using this theoretical framework, it is hoped that a solid structure can be offered to a basically neglected and much under researched area of FDI – Education FDI. Finally, in order to orientate Korean education policy for satisfying local demand and perhaps simultaneously enhance national competitiveness, Singapore's efforts to attract various types of education FDI will be analyzed in the form of a case study.

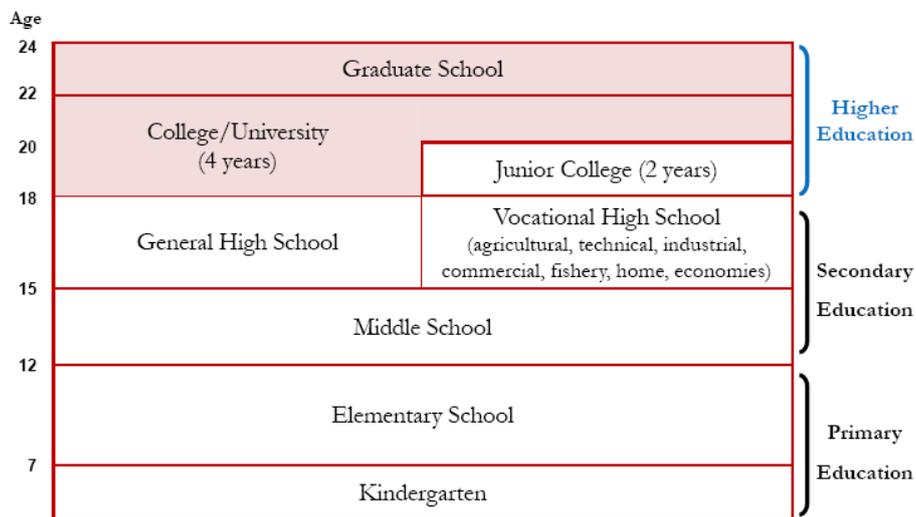
KOREA'S EDUCATIONAL BACKGROUND

To understand the demand for education that exists in Korea, it is important to understand how the level of demand came into existence. Like most East Asian countries with a Confucian heritage, Korea has a long history of providing formal education. Particularly during the Joseon dynasty, through education one could achieve position and rank, and ultimately influence, power and property. An education could be achieved by

attending a private academy known as a Seowon in order to prepare for the highest-level state examination to be a government official. According to the MEST, Christian missionaries replaced the Seowons by introducing the first ‘modern’ schools in the 19th century. However, these proved difficult to operate successfully given the consequent Japanese colonization of Korea (1910-1945), whereby formal Japanese education policy was limited to producing obedient colonial subjects through the tuition of limited technical skills.

Following the end of Japanese colonization of the Korean peninsula, the Korean War broke out and raged for three long years (1950-1953). During this time, education ceased almost entirely except for a few educational institutes, which were forced to relocate to the Southern-most cities of Busan and Kwangju. Following the Korean War, the MEST stated that the government set the direction for democratic education, expanding basic education to enhance democracy, quantitative growth in education, education reform, and qualitative growth of education. This led to the establishment of a U.S.-based model of six years of primary school, three years of middle school, three years of high school and four years of post-secondary education.

Figure 1: Korean education system



Source: MEST (www.mest.go.kr), accessed on 7 May 2010.

This study will focus specifically on the higher education segment, which is highlighted by the shaded band in Figure 1. That is to say that higher education is

regarded as university and colleges at undergraduate level, and postgraduate study in graduate schools within a university.

Korea's rapid transformation since the Korean War has been nothing short of a miracle and education at all levels has blatantly played a role. In fact, looking at the different eras of economic development, one can see that education policy has been closely linked with the economic growth engines of the times (Hanushek and Woessmann, 2007).

Table 1: Economic development and educational policy

Period	Economic Development Focus	Educational Policy
1960s	Labor-intensive industrialization	Completion of primary education
1970s	Capital-intensive heavy and chemical industries	Middle and secondary education expanded Promotion of commercial education policy Development of specialized high schools
1980-1990s	Technology-intensive industrialization	Expansion of tertiary education
2000s	Knowledge-based informatization	Human resource development policy Strengthen educational competitiveness policy Education advancement policy

As a direct result of improvements in economy and education, Korea went from having the highest illiteracy rate in the world, 78% in 1945, to having the lowest, 1.7% in 2009. Furthermore, Korea's advancement rate for post-secondary education had grown to 83.8% in 2008, up from 26.7% in 1970; and the enrollment rate has risen from 11.4% in 1980 to 70.5% in 2008 (MEST and KEDI, 2009). Most recently, Korea was ranked as 1st in reading, 4th in math and 11th in science by the OECD Programme for International Student Assessment (OECD PISA, 2006), which examined 57 countries in total in 2006. By the Trends in International Math and Science Study (TIMSS), Korea was ranked as 2nd in math and 4th in science (of eighth-grade students), which analyzed 50 countries altogether in 2007 (Martin, Mullis, and Foy, 2008; Mullis, Martin, and Foy, 2008).

However, despite the recognition that the improvement of 'education' contributes greatly to countries' economic development and level of global competitiveness; Korea's sophisticated and high level of demand; and its obvious academic advancements to date, Korea's education system remains tightly regulated compared to other's systems and the population remains dissatisfied generally.

CURRENT TRENDS AND ISSUES: A COMPARATIVE FOCUS ON KOREA'S BRAIN DRAIN INDEX AND ITS UNIVERSITIES RANKINGS

To identify the current status of Korea's education quality, this paper employs the Brain Drain Index (BDI) developed by the International Institute for Management Development (IMD) and world university rankings presented on Times Online (original rankings are drawn from QS Quacquarelli Symonds).

The BDI indicates the degree of outflow of well-educated and skilled people in countries worldwide. In the index, 10 indicates a weaker level of brain drain, which is closer to brain gain, while 0 indicates a stronger level of brain drain. There is a tendency for most developing and underdeveloped countries to show high brain drain. On the contrary, developed countries occupy most of the top rankings with a lower rate of brain drain (see Table 2).

Table 2: Brain Drain Index (BDI) and Korea (2005-2009)

	2009		2008		2007		2006		2005		Average	
	BDI	Rank										
Norway	7.38	1	7.44	1	7.18	6	7.83	4	7.75	3	7.52	3.00
Finland	7.27	2	6.52	9	6.92	10	7.59	5	7.34	5	7.13	6.20
Austria	7.21	3	7.07	4	7.76	2	8.04	2	7.31	6	7.48	3.40
Chile	6.88	5	7.03	6	7.03	8	7.58	6	8.09	1	7.32	5.20
Ireland	6.75	6	7.14	3	8.00	1	8.14	1	7.25	9	7.46	4.00
USA	6.64	7	7.07	5	7.22	4	7.84	3	7.88	2	7.33	4.20
Japan	6.39	10	6.24	11	5.70	20	6.75	14	6.53	13	6.32	13.60
Netherlands	6.30	11	6.29	10	6.15	13	6.74	15	7.36	4	6.57	10.60
Hong Kong	6.25	12	6.20	12	5.96	16	7.17	8	7.30	7	6.58	11.00
Singapore	5.78	15	6.62	8	7.08	7	6.93	11	6.59	11	6.60	10.40
India	5.73	16	5.11	25	5.50	24	6.76	13	6.25	16	5.87	18.80
Germany	5.56	18	5.40	16	5.90	17	6.36	18	5.98	18	5.84	17.40
Turkey	5.30	21	5.03	28	4.96	31	5.69	27	5.78	22	5.35	25.80
Indonesia	5.12	24	4.69	31	4.83	33	4.51	36	4.32	38	4.69	32.40
U.K.	5.08	25	5.09	27	5.65	22	5.89	21	5.05	32	5.35	25.40
Portugal	5.00	26	4.43	35	4.20	37	4.76	34	5.17	31	4.71	32.60
France	4.97	27	5.25	22	5.20	29	5.51	29	6.00	17	5.39	24.80
Malaysia	4.88	28	4.77	30	5.43	25	5.54	28	4.84	33	5.09	28.80
Thailand	4.78	29	5.23	23	4.71	34	5.70	26	5.52	27	5.19	27.80
Israel	4.74	30	5.55	15	6.10	14	6.98	10	6.48	14	5.97	16.60
Taiwan	4.36	31	4.59	33	5.39	26	5.43	30	5.83	21	5.12	28.20
Korea	3.44	42	5.11	26	5.89	18	4.91	33	5.91	20	5.05	27.80
South Africa	1.60	48	1.72	48	1.56	48	2.38	48	2.63	47	1.98	47.80

Note: 1) Based on countries listed on IMD 2009, the rankings were recalculated. 2) For year 2005-2007, the top country was Ireland with 8.80, 8.36 and 8.33 of BDI respectively. However, it is eliminated since IMD 2008, therefore Ireland disappears on this Table 3) Country order is based on the BDI rankings of IMD 2009. Data source: IMD (various issues)

Since BDI is known to fluctuate greatly, the average of both BDI and rankings of selected countries were calculated; for years 2008 and 2009 Norway took 1st place with 7.44 and 7.38 respectively. Ireland, which is eliminated on this table due to its disappearance in the IMD reports in 2008 and 2009, ranked first for years 2005-2007 with 8.80, 8.36 and 8.33 respectively.

Also seen above are Korea's BDI and its rankings, Korea lags far behind its Asian competitors such as Japan and India, and in particular its other peers of formally Newly Industrialized Countries (NICs): Hong Kong, Singapore and Taiwan. To make things worse, Korea has even been surpassed by some of the second NICs group: Indonesia, Malaysia and Thailand.

Table 3: The QS world university rankings 2009 (Top 100)

Rank	School Name	Country
22	University of Tokyo	Japan
24	University of Hong Kong	Hong Kong
25	Kyoto University	Japan
30	National University of Singapore (NUS)	Singapore
35	The Hong Kong University of Science and Technology	Hong Kong
43=	Osaka University	Japan
46	The Chinese University of Hong Kong	Hong Kong
47=	Seoul National University	Korea, South
49=	Tsinghua University	China
52=	Peking University	China
55=	Tokyo Institute of Technology	Japan
69	KAIST- Korea Advanced Institute of Science Technology	Korea, South
73=	Nanyang Technological University (NTU)	Singapore
92=	Nagoya University	Japan
95=	National Taiwan TAIWAN University (NTU)	Taiwan
97	Tohoku University	Japan

No. of Schools in the Top 100: Japan=6, Hong Kong=3, Singapore=2, Korea=2, China=2, Taiwan=1

Note: "=" means being tied with other universities.

Source: Times Online (original rankings are drawn from QS Quacquarelli Symonds, www.topuniversities.com)

In terms of world university rankings 2009, reported on Times Online, most universities in the top 100 are located in the United States and Europe. There are only 16 universities ranked in the top 100 that are located in Asia. Among them, six universities are located in Japan and three universities are in Hong Kong. China, Korea and Singapore have two universities each ranked in the top 100. Regarding ranking of university, the University of Tokyo takes the top spot of 22 among the Asian universities, followed by

the University of Hong Kong and Kyoto University, Japan. The highest Korean university ranked is Seoul National University at 47th. Among those Asian universities, Korean Universities ranked in the middle-low class. With regards to each country's population (Japan 127.7 million, Korea 48.6 million, Hong Kong 6.9 million and Singapore 4.8 million (UN, 2009)), Korea is comparatively lacking in quality universities.

In the precedent section, Korean academic achievement was mentioned in terms of its success; however, the results of the Korean BDI and university rankings are incongruous.

CONVENTIONAL FDI THEORIES AND EDUCATION FDI

Traditionally FDI entry mode theory has centered heavily on market failure variables. In fact, the transaction-cost paradigm (Williamson, 1975), the internalization theory (Buckley and Casson, 1976; Rugman, 1981; Hennart, 1982) and the resource-based view (Wernerfelt, 1984; Barney, 1991; Connor, 1991) have all been focused on the market failure aspect of FDI, which claim that MNCs will rely on their ownership advantages when facing an imperfect market or a likelihood of market failure.

Moon (1997), however, proposed an extension to this model. Moon agreed that conventional types of FDI and their entry modes are indeed explained well by the market failure variable, however; alone it fails to explain unconventional FDI and its entry modes, which perform, not based on ownership advantages but rather on other motivations. Moon expanded the model by adding two further variables, which are, location factors and complementarity. The location factor variable is sub-divided into the country specific view (based on trade theories and the eclectic paradigm of Dunning (1988, 1995, 2000)) and the firm specific view (Beamish and Banks, 1987; Kogut, 1988; Tallman and Shenkar, 1994). The complementarity variable consists of the managerial resource view (Penrose, 1956), the co-specialized asset view (Teecce, 1992) and the imbalance theory (Moon and Roehl, 1993).

Then are we suggesting that the Korean education market has failed and that foreign education institutions have ownership advantages over those of Korea? It has been accepted that Korea's education system is far from perfect, but according to the OECD (2008), Korea's educational outcome is one of the best. As previously mentioned, Korea showed high performances in reading, mathematics and science scales in PISA and TIMSS.

Also, regarding tertiary (higher) education, in the age group 25-34, Korea places 4th out of the OECD member countries.

However, due to dissatisfaction with the Korean education system, improved standards of living, solid outcomes of education but worsening brain drain desirous of better and even higher quality education, we can conclude that the main problem with Korean education is not market failure but more likely extremely high domestic demand sophistication, which can not be explained well by most conventional models, and a number of scholars agree with this proposition (Kim and Byun, 2006; Lee, 2006; Seth, 2005).

Ultimately, the Korean education field cannot be viewed in only market failure terms and, similarly, neither can education FDI. Generally, Moon (1997) considered original theoretical models not expansive enough to deal with the wide variety of entry modes available in both conventional and unconventional forms of FDI. Thus, this paper will apply Moon's comprehensive entry mode theory in order to fully analyze and explain all possible entry modes available for use with regards to education FDI and its consequent expansion, liberalization and improvement of Korea's educational environment (see Table 4).

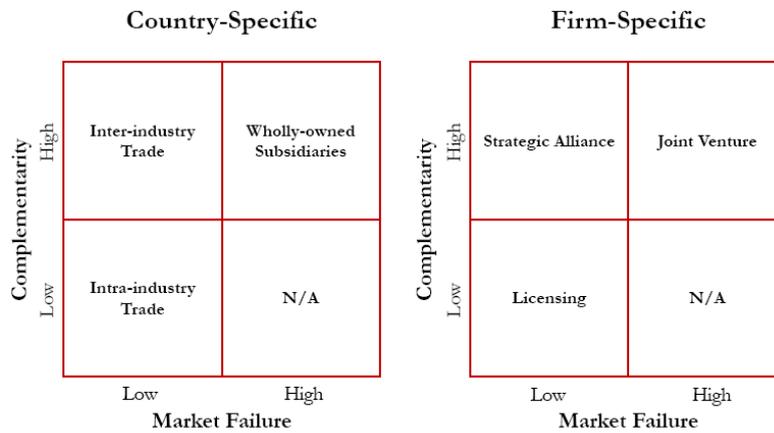
Table 4: Explanatory variables and related theories

Variables	Theories
Marketing Failure	Transaction-cost Paradigm (Williamson 1975) Internalization Theory (Buckley and Casson 1976, Rugman 1981, Hennart 1982) Resource-based View (Wernerfelt 1984, Barney 1991, Conner 1991)
Location Factors	Country-specific View (Trade Theories; Dunning's Eclectic Paradigm) Firm Specific View (Beamish and Banks 1987, Kogut 1988, Tallman and Shenkar 1994)
Complementarity	Managerial-resource View (Penrose 1956) Cospecialized-asset View (Teece 1992) Imbalance Theory (Moon and Roehl 1993)

Source: Moon (1997)

Until now, little research has been performed with regards to the entry modes available in education FDI, and thus little is known about which entry modes are more or less desirable and to which types of education they should be applied.

Figure 2: Entry modes



Source: Moon (1997)

Figure 2 represents the entry mode theory of Moon (1997). As can be seen, the model is divided into two tables. The right-hand table represents country-specific entry modes and the left-hand one represents firm-specific entry modes. The “x” axis of each table is labeled as market failure, which can range from a low to high likelihood of occurrence. The “y” axis of each is labeled as the complementarity variable, which can range from a low to high level of existence. However, in both figures it can be noted that in the bottom right hand corner there exists no example of an entry mode. This can be easily explained as an entry mode, be it country- or firm-specific, would not be applied if it had both a high likelihood of market failure and low complementarity, as benefits received by using that entry mode are most likely to be either very low or non-existent.

At the country-specific level, the corner with high complementarity and low market failure is inter-industry trade. Wholly owned subsidiaries also have high complementarity but equally a high likelihood of market failure. Intra-industry trade is classified as being low in terms of complementarity but equally low in the likelihood of market failure. Looking at the firm-specific level, both strategic alliances and joint ventures are high in their level of complementarity but strategic alliances are low in the probability of market failure whereas joint ventures are high in market failure possibility. Last but not least, is the licensing agreement form of entry mode that is classified as having a low level of complementarity and also a low chance of market failure.

Ideally, a good entry mode would be one with both high complementarity and low market failure and that would suggest that inter-industry trade and strategic alliances are

the most practical and safest forms of entry mode. However, other entry mode strategies may also be applicable or even preferable, based on specific needs, but one should first be aware of the risks involved, which is what this model allows the practitioner. Further, it is essential to clarify the above entry modes' classification based on Moon (1997) (See Table 5).

Table 5: Entry mode classifications

Level	Entry Mode	Classification
Country Specific	Inter-industry Trade	Exported and imported commodities differing in factor content.
	Wholly Owned Subsidiary	100% investment in which decisions are made solely by the investor.
	Intra-industry Trade	Exported and imported commodities similar in factor content.
Firm Specific	Strategic Alliance	Partnership with little equity sharing.
	Joint Venture	Joint partnership in which major decision-making is shared with the foreign partner.
	Licensing Agreement	Complementary arrangement between a multinational firm that has the expertise and a local firm that has the motivation to exploit it.

By applying Moon (1997)'s entry mode theory we can provide more structure and organization to education FDI entry modes. Applying the theory should in fact not confuse the situation further but actually add clarity to a previously unexplored area of FDI.

Figure 3: Education FDI entry mode

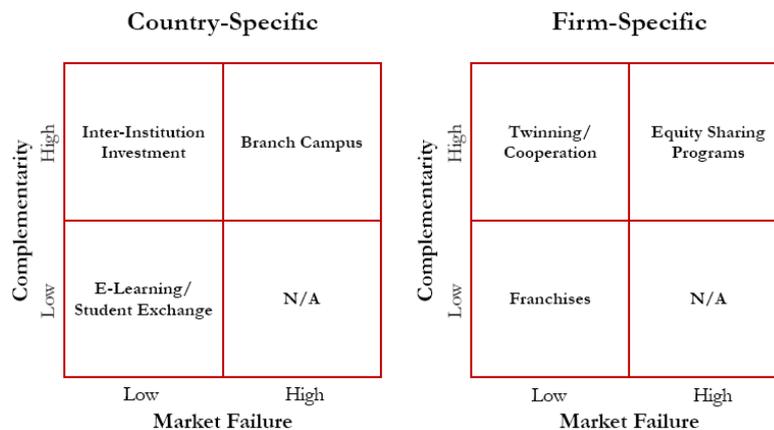


Figure 3 represents the application of the entry mode theory, as seen previously in Figure 2, to the education field. In place of the original entry modes are instead examples of education FDI types, which are representative of the entry modes shown in Figure 2 and their classifications in Table 5.

With regards to the country-specific level, it was found that inter-institution investment was most representative of inter-industry trade. Therefore, inter-institution investment can be said to have a high level of complementarity and a low likelihood of market failure. Examples of inter-institution investment include the investments made by Qualcomm, a U.S. based electronics design and supply firm, to Yonsei University in Korea, and Motorola's investment in the design branches of both Hongik University, Korea, and Northumbria University, U.K. Branch campuses were found to be most similar to wholly owned subsidiaries, which entails having a high level of complementarity but also a high possibility of market failure. There currently exist no examples of branch campuses within Korea but some international examples of branch campuses include Temple University in Japan and INSEAD in Singapore. Finally, E-learning or student exchange programs were found to be akin to intra-industry trade and therefore have a low level of complementarity and a low possibility of market failure. Examples of student exchange are programs between the Graduate School of International Studies, Seoul National University (GSIS SNU) in Korea and École Supérieure des Sciences Économiques et Commerciales (ESSEC) in France.

In terms of the firm-specific level, twinning or cooperation programs were found to be comparable to strategic alliances, which have a high level of complementarity and a low chance of market failure. Examples of twinning or cooperation include an agreement between Korea Advanced Institute of Science and Technology (KAIST) and Northwestern LLM (Master of Law) and another agreement between GSIS SNU and ESSEC. Equity sharing programs were found to have some semblance to joint ventures, which are high in complementarity yet also high in the likelihood of market failure. In this field too there exists no example within Korea, however; an example of an equity-sharing program outside of Korea is the China-Europe International Business School (CEIBS). Lastly, franchises were the most similar to licensing agreements and therefore have a low level of complementarity and an equally low chance of market failure. Examples of licensing agreements with regards to higher education are non-existent in Korea but in the

private education sector there are many, such as Wall Street Institute, an American English Academy for adults which is now located in over 27 countries, including Korea, around the world and the Kaplan-Princeton Review. An overview is presented below (See Table 6).

Table 6: Entry modes and a variety of examples in education

Level	Entry Mode	Example
Country Specific	Inter-institution Investment	Qualcomm-Yonsei University Motorola-Hongik/Dundee University
	Branch Campus	Temple University, Japan INSEAD, Singapore
	E-learning/ Student Exchange Program	GSIS SNU-ESSEC Wharton-INSEAD
Firm Specific	Twinning/Cooperation	Malaysia-Australia Foundation KAIST-Northwestern LLM GSIS SNU-ESSEC
	Equity Sharing Program	China-Europe International Business School (CEIBS)
	Franchise	(Kaplan-Princeton Review, Wall Street Institute)

Note: Examples of licensing agreements (Franchise in education FDI) with regards to higher education are non-existent in Korea, but in private education sector. Kaplan-Princeton Review and Wall Street Institute are included to enhance readers understanding.

After applying the theoretical model to education FDI, the results can be summarized in Figure 3. Rather than focusing on that which is positive, practitioners of the theory, when considering the variety of entry modes on offer, should in fact focus on that which is negative, and may thus pose a certain level of risk. Looking at Table 7, those that are divergent are marked in the shaded bands. Therefore, practitioners, focusing on country-specific entry modes, should be aware of using E-learning or student exchange programs as they offer a lower level of complementarity when compared with inter-institution investments or branch campuses. However, one should also be wary of branch campuses as they hold a higher level of market failure than inter-institution investment or E-learning and student exchange programs. With regards to firm specific entry modes, equity sharing programs may be noted for their high possibility of market failure when compared with the decidedly lower likelihoods of market failure in twinning and/or cooperation programs and franchises. Franchises, however, offer a lower level of complementarity than equity sharing programs and twinning and/or cooperation programs do.

Table 7: Summarization of entry mode theory application

Entry Modes	Location Factors		Market Failure		Complementarity	
	Country	Firm	High	Low	High	Low
Inter-institution Investment	X			X	X	
E-learning/Student Exchange	X			X		X
Branch Campus	X		X		X	
Equity Sharing Program		X	X		X	
Twinning/Cooperation		X		X	X	
Franchises		X		X		X

BENCHMARKING SINGAPORE: A CASE STUDY

The first issue that must be addressed is why Singapore is the ideal country for Korea to benchmark. At first glance, the two countries are fairly different. However, size and wealth aside, the two nations have much in common. Firstly, they are both located within Asia and thus share regional similarities; secondly they both significantly lack natural resources and identify their populations as being a key resource; thirdly, they are both comparatively small island nations (although Korea is technically a peninsula, land access to China and Russia is impossible due to the situation with North Korea) surrounded by significantly larger economic powers – Singapore by Indonesia, Malaysia and even China, and Korea by China, Japan, and Russia.

From a slightly different perspective, it could be argued that Singapore is a more appropriate choice given the two countries intertwined economic development. Dubbed the ‘Four Asian Tigers,’ Hong Kong, Korea, Singapore, and Taiwan were the first newly industrialized countries (NICs) that were noted for maintaining exceptionally high growth rates and rapid industrialization between the 1960s and 1990s (Castells, 1992). Both nations have since graduated to advanced and high-income status economies.

Then why benchmark Singapore and not Hong Kong or Taiwan? According to the IPS National Competitiveness Research (various issues), of the four Asian Tigers, Singapore has consistently outranked the others in terms of the competitiveness of their educational system, and is currently ranked 1st in the world (Korea is currently ranked last in 67th place). Furthermore, Singapore is the only tiger to have maintained a top twenty position in the education world ranking from 2006 to 2009 (see Table 8). Lastly, Singapore is the top ranking Asian country in the overall worldwide ranking of national competitiveness. The discrepancies between the four nations, in terms of education and

competitiveness are obvious, and Singapore could potentially act as a benchmark for not only Korea but also the others.

Table 8: The Asian tigers' competitiveness rankings

	Competitiveness of Educational System				Education World Ranking			
	2009	2008	2007	2006	2009	2008	2007	2006
Hong Kong	15	31	42	41	31	33	37	36
Korea	67	52	63	64	41	40	42	43
Singapore	1	3	5	18	8	13	8	18
Taiwan	39	37	21	48	20	23	17	28

Data source: IPS (various issues)

How exactly has Singapore risen to such heights in the educational arena? According to the Ministry of Education (MOE), Singapore (www.moe.gov.sg), their goal, through the use of education, is to develop the individual and to educate the citizen. The Ministry sees education as a tool with which to develop their citizens morally, intellectually, physically, socially as well as aesthetically. The Ministry of Education identifies the following as desirable results of their education system at a higher level:

- Have moral courage to stand up for what is right
- Be resilient in the face of adversity
- Be able to collaborate across cultures and be socially responsible
- Be innovative and enterprising
- Be able to think critically and communicate persuasively
- Be purposeful in pursuit of excellence
- Pursue a healthy lifestyle and have an appreciation for aesthetics
- Be proud to be Singaporeans and understand Singapore in relation to the world.

With these key points in mind, Singapore has seemingly been on a mission to reform its education system and policy over the years. In particular, the Singapore government has been noted as saying that their only natural resource is their people (Aryee, 1994), and so for Singapore it makes sense to have a well-educated, well-trained and highly capable work force that represents the changing face of the economy. However, until recently the government has been fairly conservative with regards to the education sector. Thus undergraduate programs were limited to only the public sector, however, after drawing comparative insights from other developed economies the Singapore government has

adopted a policy of decentralization to allow more autonomy and flexibility for universities in order to induce their creativity and innovation (Mok, 2003). Singapore, like a few others, has been moving towards an acceptance of private schooling, greater outsourcing of services, importation of business practices and even terminology into education – principals as CEOs and students as clients (Gopinathan, 2007).

Key policy changes were made in the Singapore education system in 1997, shortly after the shock of the 1997 Asian economic crisis. The effectiveness of the education system was called into question at a time when the economic and social environment was in upheaval (Gopinathan, 2007). Prime Minister Chok Tong Goh's landmark "Thinking Schools, Learning Nation (TSLN)" initiative speech was also given in June 1997. Prime Minister Goh stated that: "*TSLN is not a slogan for the Ministry of Education. It is a formula to enable Singapore to compete and stay ahead*" (quoted in: Gopinathan, 2007).

The "Thinking Schools" intended to ensure a more process centered learning environment, while "Learning Nation" aimed to promote a culture of continual learning. TSLN was a landmark as it showed a desire to be open, more flexible and the recognition of the need for change. The four main thrusts of the program were (Gopinathan, 2007):

1. Emphasis on critical and creative thinking
2. Use of IT in education
3. National education (Citizenship education)
4. Administrative excellence.

However, it was the implementation of the World Class University (WCU) program that really began the internationalization of the Singaporean education system (Olds, 2007). The WCU program was introduced in 1998 and intended to introduce/attract ten world-class universities to Singapore within ten years. Since its implementation Cornell, Duke and Johns Hopkins (from the U.S.), ESSEC and INSEAD (from France), to mention but a few, have all established campuses, research laboratories, joint ventures or joint degree programs in Singapore (Yonezawa, 2007).

In 2003-2004, the Economic Development Board (EDB) of Singapore also introduced a quality assurance policy, which was developed not under an education policy framework but rather an industrial policy framework. It established the Singapore Quality Class (SQC) for Private Education Organizations and was oriented towards the assurance of effective organizational management (Yonezawa, 2007).

Plans were also put into play to increase higher education participation from 21% in 2003 to 25% in 2010, to allow several private universities to provide undergraduate programs and to try to become the higher education hub of Asia under a “Global School-house” policy (Yonezawa, 2007). The strategy was formulated to contribute to Singapore’s development as a regional and global hub for research and development. The strategy targeted a growth in foreign students from 80,000 to 150,000 by 2015 and it would be difficult, if not impossible, for Singapore’s two major universities, the National University of Singapore (NUS) and Nanyang Technological University (NTU), to absorb that level of growth. Thus creating linkages with foreign partners was obviously a must. Therefore, since 1998, approximately 16 universities have forged linkages with institutions in Singapore. Olds (2007) identifies 25 of such ventures (see Table 9).

Table 9: Foreign linkages in Singapore

Year	Foreign University & Discipline(s)	Type of Linkage
2005	ESSEC – Business	Private campus
	University of Nevada – Hospitality Management	Private campus
	SP Jain Center of Management - Business	Private Campus
2004	Australian National University – Actuarial Sciences	Joint graduate programs
	Waseda University – Business & Technology	Joint graduate programs
	University of New South Wales – Comprehensive	Full campus
2003	École Supérieure d’Electricité – Engineering	Joint graduate programs
	Carnegie Mellon University – Information Systems	Consultancy to establish school and joint research
	Stanford University – Environmental Science & Engineering	Joint graduate program via teaching, video and exchange
	Cornell University – Hospitality Management	Joint graduate program via teaching, exchange and research
	Duke University – Medicine	Joint graduate school
	Johns Hopkins University – Music	Collaboration to create Yong Siew Toh Conservatory of Music
2002	Karolinska Institutet - Bio Engineering	Joint graduate program and research
	Technische Universität München – Industrial Chemistry & Ecology	Joint graduate programs via teaching and exchange
	University of Illinois – Engineering	Joint graduate programs via teaching and exchange
2001	Shanghai Jiao Tong University – Business	Joint graduate programs via teaching and exchange
2000	U.S. Naval Postgraduate School – Military	Joint graduate programs via teaching and exchange
	University of Pennsylvania – Business	Consultancy and subsequent joint research
1999	INSEAD – Business	Second campus established
	University of Chicago – Business	Third campus established
	Georgia Institute of Technology – Logistics	Joint graduate programs via teaching and exchange
1998	Johns Hopkins University – Medicine	Offices established to facilitate joint research and teaching
	Center National de la Recherche – Engineering	Labs established to facilitate joint research
	Massachusetts Institute of Technology – Engineering & Computer Science	Joint graduate programs via video, exchange & conferences

Applying Moon's entry mode theory to Singapore, it can be seen that various institutions have taken advantage of a number of entry modes available to them. Singapore's increased openness, desire for internationalization and policy changes have effectively opened the door for a variety of educational institutions to use an assortment of entry modes as a vehicle into the Singaporean education market (Lee, 2008) (see Table 10).

Table 10: Singapore example of education entry modes

FDI Entry Mode	Entry Mode	Singapore Example
Inter-industry Trade	Inter-institution Investment	John Hopkins Medicine-NUS, Thales-NTU
Wholly Owned Subsidiary	Branch Campus	INSEAD-Wharton Alliance, Chicago Graduate School of Business (GSB), ESSEC Business School
Intra-Industry Trade	E-learning/Student Exchange	Sim University, NUS-Student Exchange with 120+ Universities, Wharton-SMU Research Center
Strategic Alliance	Twining/Cooperation	NUS-UCLA Singapore-MIT Alliance, University of Nevada Las Vegas Accreditation Program
Joint Venture	Equity Sharing	INSEAD-Wharton Alliance
Licensing Agreement	Franchise	N/A

Benchmarking countries, which have been particularly successful with regards to their education system and policy implementations, is of the utmost importance. Globalization is now not a choice but more of a necessity and just as the business world has come to the realization that it is a tool for survival, so too should the education industry, both public and private. The benchmarking of Singapore can offer a variety of policy implications for Korea on where to go from here.

Firstly, based on the Singapore case study it would be appropriate to advise deregulation on entry so that wholly owned branch campuses could be more easily set up. As of July 2007, the Ministry of Education (MOE) and Human Resource Development (HRD) deregulated the establishment of university procedures, however, the new easy entry regulations do not allow for a foreign university to be set up in Korea by a foreign national, thus Korea remains closed particularly with regards to branch campuses (MOE, 2007).

In order to encourage strategic alliances between universities and companies, it would be highly beneficial if the government could create some kind of subsidy program by

which Korean universities attempting to form strategic alliances could be funded. Perhaps many of the obstacles towards investing or attracting investment in the education sector could be attributed to a lack of funding. Further, if foreign faculty quotas (both tenured and untenured positions) were set in place, it could, in the long term, gently encourage the integration of educational institutions, but in the short term provide an alternative to student exchange and be termed under intra-industry trade. It would also be beneficial to the education industry in Korea to actively start attracting company research centers on a larger scale – perhaps most importantly, foreign companies. This could be achieved through providing incentives such as tax exemptions and cheaper industrial complexes. Most countries already provide Special Economic Zones (SEZs), which are areas where the economic laws are less stringent than usual. Taking SEZs a step further, the Korean government could consider setting up innovative educational policy promotion programs, within SEZs, where education FDI can be implemented more easily.

Lastly, taking a leaf directly out of Singapore's book, the Korean government should consider the integration of government sectors. In the future the Ministry of Education, Science and Technology could be meshed together with the Ministry of Knowledge Economy (MKE), thus putting education on equal par of importance with economic development. The two items should not be considered as mutually exclusive and dealt with on separate agendas, but should be dealt with in a similar manner so as to complement one and another.

Overall, Korea, which has managed to obtain a high level of economic development in much and such the same manner as Singapore, should follow in its footsteps with regards to education policy and the implementation of FDI as a tool for the improvement and expansion of the educational industry in Korea. Undoubtedly, the most important lesson to learn from Singapore is that of liberalization.

CONCLUSION

This paper thoroughly reviewed not only the most important FDI theories to date, but also the Korean education system and its recent history. As previously mentioned, most conventional theories cannot explain education FDI, as those theories, such as the OLI paradigm (Dunning 1988, 1995, 2000), mainly emphasize ownership advantage, and education FDI in Korea cannot be explained purely in ownership advantage terms. However, all of the entry modes of FDI can be very well explained by Moon (1997)'s

entry mode theory. Table 11 shows an overview of the application of his FDI theory into education FDI.

Table 11: Application-FDI and education FDI entry mode

Level	FDI Entry Mode	Education FDI Entry Mode
Country Specific	Inter-industry Trade	Inter-institution Investment
	Wholly Owned Subsidiary	Branch Campus
Firm Specific	Intra-industry Trade	E-learning/Student Exchange Program
	Strategic Alliance	Twining/Cooperation
	Joint Venture	Equity-sharing Program
	Licensing Agreement	Franchise

At the country-specific level, inter-institution investment substitutes inter-industry trade, branch campus for wholly owned subsidiary, E-learning and student exchange programs for intra-industry trade. Twining and cooperation act as strategic alliances, equity-sharing programs for joint ventures and franchise for licensing agreements; which are at the firm specific level.

From the Singapore case study, differences between Korea and Singapore can be easily discovered. However, like Singapore, Korea is trying very hard to enhance its education system and has realized its shortcomings. As such, according to the KEDI, Korea has implemented the Global Korea Scholarship program; the Campus Asia program (joint curriculum and degree programs with China and Japan); and the World Class University Project, where international scholars are invited to lecture. All of these programs are steps in the right direction; as they will ultimately increase international exchanges, improve cooperation with other countries and cooperation with international organizations.

However, Korea still does not possess several entry mode options such as branch campuses (wholly owned subsidiaries), which seems to be one of Singapore's main strengths in educational competitiveness. This indicates that the largest difference between Korea and Singapore is not a lack of desire or enthusiasm per se, nor a better education system, but openness. Through openness Korea can achieve a better level of education FDI that can enhance the quality of Korean education, and eventually lead to brain gain. For FDI, the key is openness and Korean policy makers in the education field should keep this in mind and strive continuously for liberalization.

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