

Offshoring: Recent Trends, Economic Impact and Policy Issues for Korea

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1. Introduction

Offshoring has become one of the most striking features of the global economy. Offshoring refers to the tendency of firms in developed countries to relocate work to firms in other countries. Worldwide outsourcing was worth approximately US\$3.783 trillion in 2003 and is said to be growing rapidly by around 16% each year (OECD, 2004). Grossman and Helpman (2002) tentatively conclude that outsourcing of intermediate goods and business services is one of the most rapidly growing components of international trade. Also, Hummels et al. (2001) find that growth in vertical specialization accounted for 30% of the growth in exports of 10 OECD countries and 4 emerging market countries between 1970 and 1990.

With the rise of offshoring, greater attention is being paid to the possible economic impacts on both outsourcer and insourcer. Using relevant available data, this paper will examine the facts surrounding worldwide offshoring, its economic impact and Korea's offshoring location attractiveness. The remainder of this paper is organized as follows. Section 2 describes the recent trends of offshoring and the performance of major countries in the offshoring market. In section 3, we explore the effects of offshoring on productivity and the pattern of production and trade. Section 4 analyzes the attractiveness of Korea as a competent location of offshoring and proposes policy implications. Section 5 provides the concluding remarks.

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2. Definition and Trends of Offshoring

2.1 Definiton of Offshoring

The term "offshoring" refers to the relocation of jobs and production to a foreign country, which includes both internal offshoring - often used interchangeable with the term "captive offshoring" - and offshore outsourcing - often called "global offshoring" (<Figure 1>). "Internal offshoring" refers to company-owned offshore operations, such as FDI and intra-firm outsourcing, while "offshore outsourcing" is the international relocation of jobs and processes to third parties. In contrast, the term "outsourcing" has a more comprehensive meaning referring to the relocation of tasks to external providers anywhere in the world, including the domestic market.

<Figure 1> Definiton of Offshoring and Worldwide Value of Offshoring, Insourcing and Outsourcing in IT and Business Process Services (2001)

Control	<i>Outsourced</i>	Onshore Outsourcing (External Domestic Supply) (USD 227 billion)	Offshore Outsourcing (External cross-border supply) (USD 10 billion)
	<i>Insourced</i>	Internal Domestic Supply	Internal Offshoring (Internal cross-border supply) (USD 22 billion)
		<i>National</i>	<i>International</i>
		Location	

Source: OECD (2004), McKinsey and Company (2003)

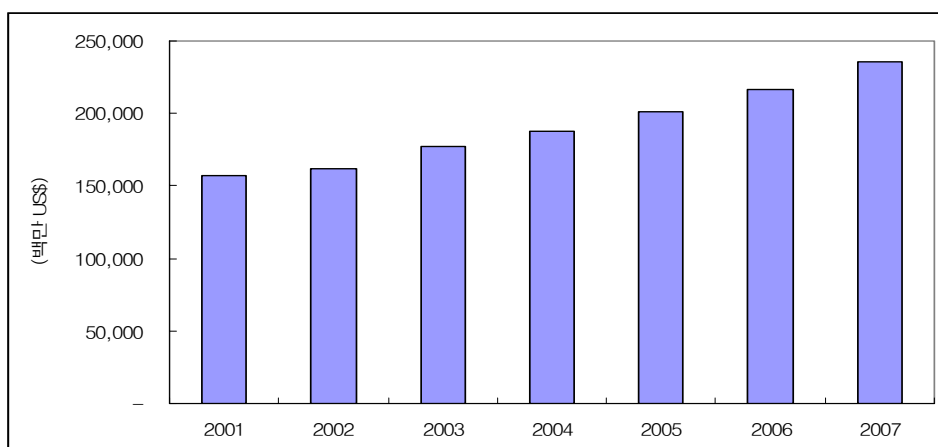
2.2 Trends of Offshoring

The outsourcing market is estimated at US\$4 trillion a year, of which global outsourcing accounts for 10% (Fortune, 2006). McKinsey & Company (2003) suggests that internal offshoring is more than double the value of offshore outsourcing in IT and business process services .

There still does not exist accurate data on the extent of offshoring, because of definitional and data collection difficulties (OECD, 2004). However, since the majority of outsourced goods and services take place in the ICT sector and other knowledge-based business services, export data from this sector provide us a better picture of the size and trends of offshoring. Gartner Group, an IT consulting firm, predicts the market size of global outsourcing in the IT services industry will grow from US\$176.8 billion (2003) to some US\$235.6 billion in 2007 with a growth rate of 7.8% (<Figure 2>).

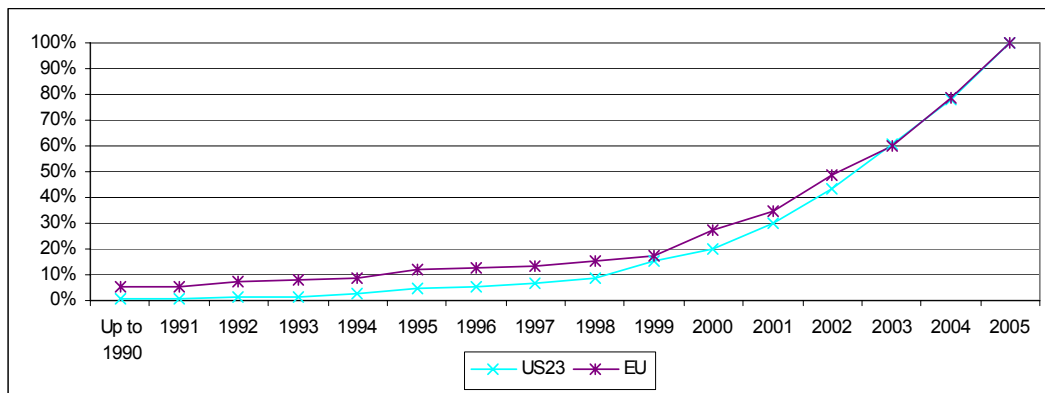
<Figure 3> represents the cumulative percentage of all offshoring launched by 540 US and EU companies. There seems to have been a structural break between 1990s and 2000s in growth of offshoring. This feature is similar to the offshoring trends in the IT services of US firms (Figure 4).

<Figure 2> Forecast on Offshore Outsourcing of IT Services



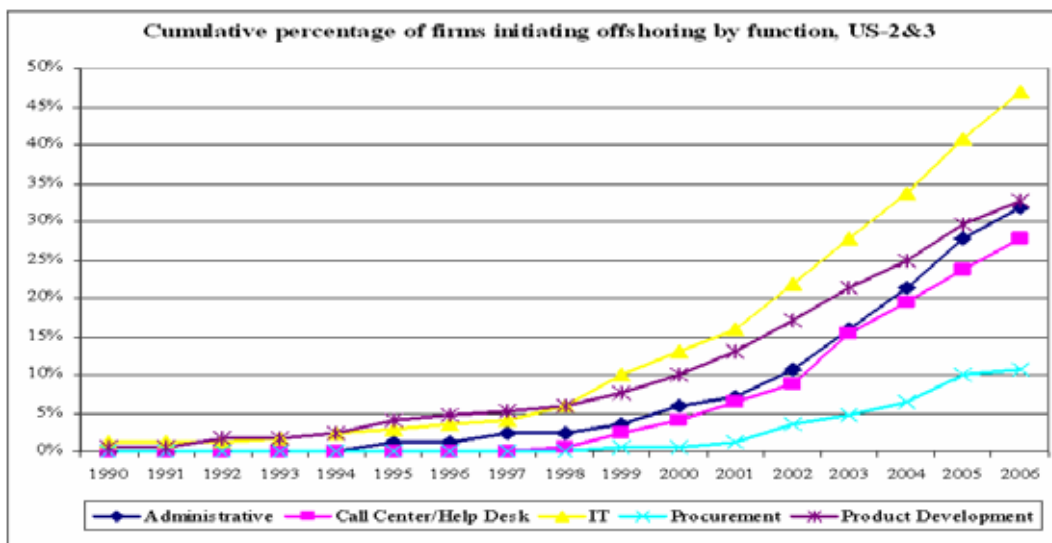
Source: Gartner Dataquest (2004.3), Lee & Lee (2006)

<Figure 3> Cumulative percentage of offshore implementations launched over time



Source: Offshoring Research Network, 2006

<Figure 4> U.S. Offshoring of IT and product development



Source: Lewin, A. (2006)

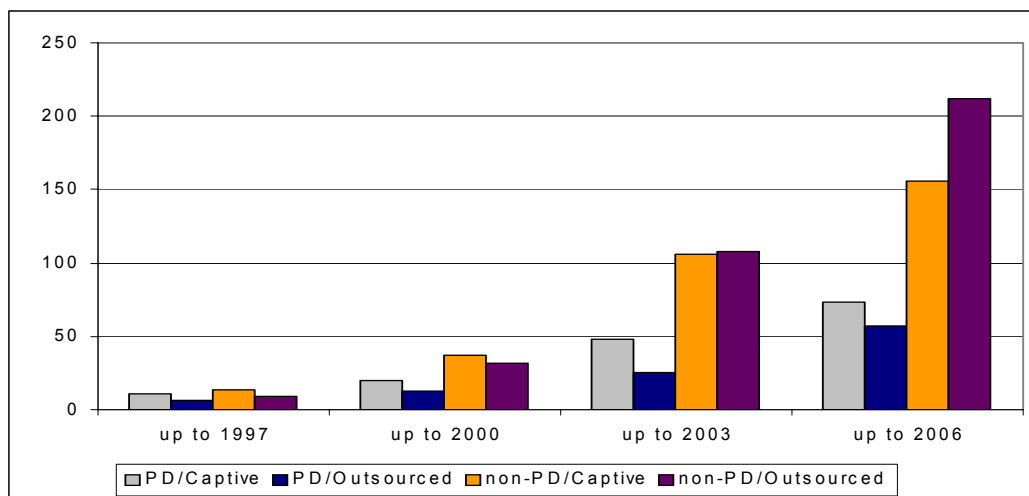
2.3 New Trends of Offshoring

<Offshoring Core Competency>

The conventional wisdom on outsourcing is that firms tend to contract out peripheral jobs, such as call centers, software maintenances, or standardized manufacturing processes, to third parties or engage in arm's

length transactions to achieve cost saving. Recent trends of offshoring show that more firms are likely to outsource even key activities related to core competency, such as data manipulation, higher-end sales and services, and R&D. Overall, though, firms still seem to prefer internal offshoring for product development, while they tend to choose outsourcing for other functions (Figure 5).

<Figure 5> Offshore outsourcing vs. Internal offshoring



Source: Lewin, A. (2006)

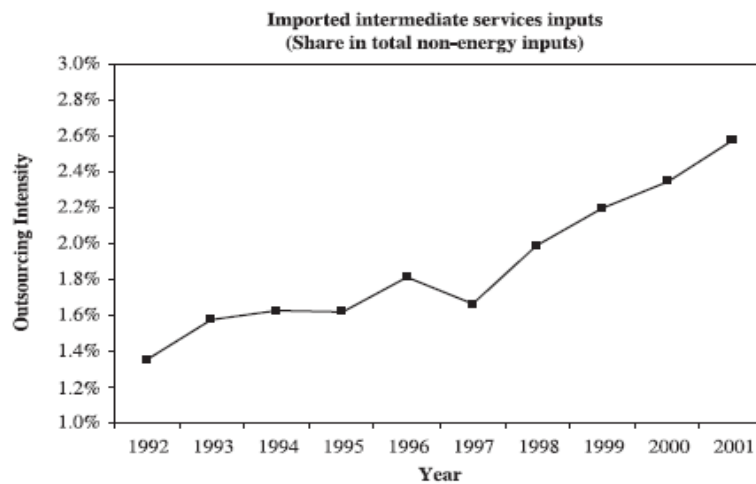
<Increase in Services Offshoring>

Services offshoring is rated as 'the most significant trend of 2003' by Forbes readers. It includes operating call centers, writing software, data processing, transcription, product design, etc. Service offshoring is made possible by the development of offshore process steps that can be decoupled from the processes carried out at home and the development of sophisticated mechanisms to monitor culturally and geographically diverse suppliers.

International outsourcing of services in developed countries is much lower than material outsourcing, but is increasing at a faster pace. According to IMF international trade data, global outsourcing of services in the US is still low but has increased over time (Amiti and Wei, 2005). Imports of computer and information, plus other business services as a

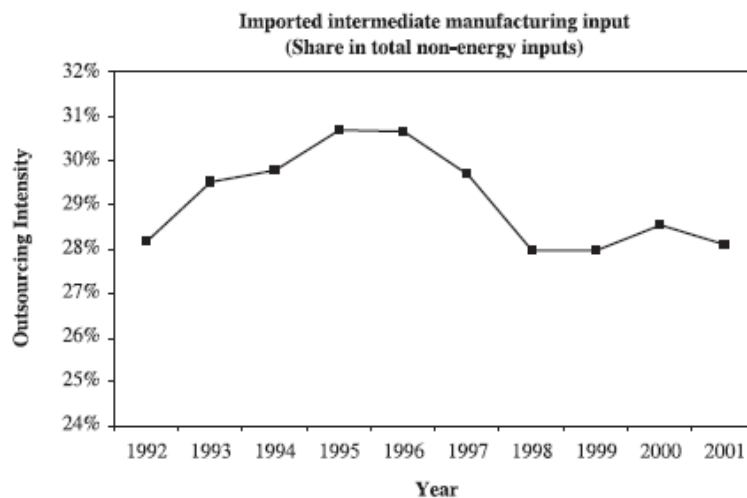
share of GDP was only 0.4% in 2003. In the UK the outsourcing ratio was 1.2% in 2003. Compared to service outsourcing, material outsourcing is much higher both in the US and UK. The material outsourcing as a share of GDP is 11% in the US and 27% in the UK. But as Figure 6 and 7 show, the offshore outsourcing of services in the UK is steadily rising, while material outsourcing has been declining since the mid-1990s.

<Figure 6> Imported Intermediate service inputs: UK



Source: Amiti and Wei (2006)

<Figure 7> Imported intermediate manufacturing input: UK



Source: Amiti and Wei (2006)

2.4 Offshoring in Selected Countries

<Main outsourcer countries: US and EU>

United States: According to the McKinsey Global Institute (2003), U.S. firms account for some 70 percent of the total global outsourcing market. At present, 25% of company budgets are spent on outsourcing. Global Insight (2004) predicts that offshoring may boost U.S. employment by 589,000 jobs between 2003 and 2008 raising real wages by 0.44%; though, it also estimates a job loss of 246,000 due to IT offshoring. The US companies taking advantage of their global networks both to insource and outsource include: General Motors, General Electric, Hewlett-Packard, IBM, EDS, and Morgan Stanley (Forbes, 2003).

European Union: European companies also tend to outsource low-skill tasks to low-cost locations. Survey results from 500 western EU companies show that a quarter of these companies engage in offshore outsourcing to other countries, most of which are Eastern and Central Europe (Fortune 2005).

<Main Insourcer Country: India>

India is the leading location for the offshoring of IT and business processes (BOP), accounting for some 25% of global IT and BOP. Indian exports of other business services and ICT services experienced strong average growth over the period 1995-2002 with a compounded annual growth rate of 26%. Major outsourcing firms in India are Tata, Infosys, Wipro, etc. The annual revenue of Tata Consulting Services was US\$1 billion in 2003. Infosys earned US\$754 million of which 98% stemmed from exports (OECD, 2004). India itself is a significant outsourcer of business services with a value of \$11 billion.

<Table 1> Absolute value of imported services in 2002

(millions of US\$)

Rank	Country	Business services	Rank	Country	Computer and information services
1	United States	40,929	1	Germany	6,124
2	Germany	39,113	2	United Kingdom	2,602
3	Japan	24,714	3	Japan	2,148
4	Netherlands	21,038	4	Netherlands	1,586
5	Italy	20,370	5	Spain	1,572
6	France	19,111	6	United States	1,547
9	United Kingdom	16,184	9	France	1,150
11	India	11,817	10	China, P.R.	1,133
18	China, P.R.	7,957	14	Russia	592
20	Russia	4,583			

Note: ^aFor India, information on computer and information services is not given in the IMF *Balance of Payments Yearbook*.

Source: IMF, *Balance of Payments Statistics Yearbook*.

<Table 2> Absolute value of exported services in 2002

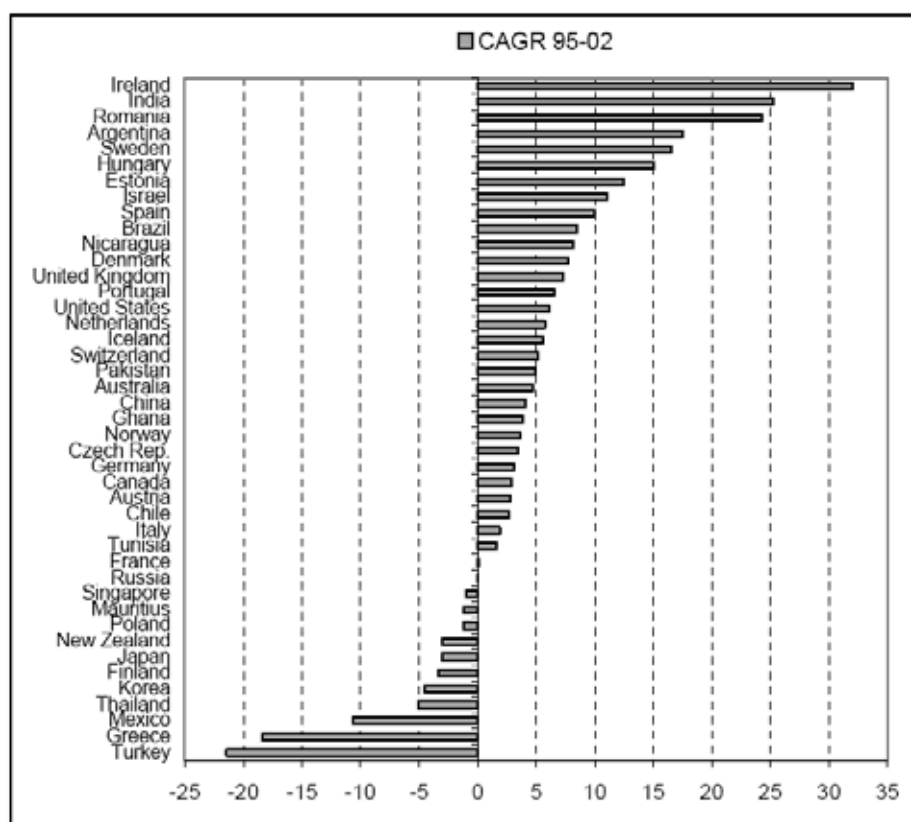
(millions of US\$)

Rank	Country	Business services	Rank	Country	Computer and information services
1	United States	58,794	1	Ireland	10,426
2	United Kingdom	36,740	2	United Kingdom	5,675
3	Germany	27,907	3	United States	5,431
4	France	20,864	4	Germany	5,185
5	Netherlands	20,074	5	Spain	2,487
6	India	18,630	10	France	1,191
8	Japan	17,401	11	Japan	1,140
14	China, P.R.	10,419	12	China, P.R.	638
29	Russia	2,012	25	Russia	137

Note: ^a There is no separate information on computer and information services in the balance of payments of India.

Source: IMF, *Balance of Payments Statistics Yearbook*.

<Figure 8> Growth of the value of exports of other business services and computer and information services for selected countries, 1995-2002



Source: OECD (2004)

3. Economic Impact of Offshoring

3.1 Effects on Productivity

It is widely accepted that offshoring can enhance growth in productivity. There are three arguments that lead to this conclusion. First, firms can focus on strengthening core competencies by moving lower-value jobs to foreign countries. Second, exposure to increased competition from offshoring could cause the most productive firms to remain in the market, while forcing the least productive firms to exit the industry. This self-selection process can raise industry level productivity. Third, the lower costs of offshored IT services could contribute to improving the efficiency of business processes by reducing the cost of

technology and communication (GAO, 2006).

Due to the short history of service offshoring compared to material offshoring, there is a dearth of empirical study on the link between offshoring for services, manufacturing, and productivity. Mann (2004) suggests that offshoring in the IT industry led to an annual increase in productivity of 0.3 percentage points for the period from 1995 to 2002. Using the effects of offshoring on productivity in US manufacturing industries from 1992 to 2000, Amiti and Wei (2006) find that service offshoring has a positive effect on productivity, accounting for around 11 percent of productivity growth. Material offshoring also has a positive effect on productivity, but it does not seem to be as robust as in services.

3.2 Effects on Trade and Development

Although offshoring itself is a part of international trade in intermediate inputs, it also has the ability to create new trade patterns by increasing the demand for goods and services in recipient offshoring countries. Offshoring in general takes the form of managers in the North supervising teams of workers in the South. Knowledge intensive jobs are created in the North and production jobs in the South. This production and specialization pattern can result in trade where the North is a net exporter of knowledge intensive services while the South becomes a net exporter of manufacturing goods or less knowledge intensive services (Antras et al., 2005).

In sectors with a low intensity of headquarter services, however, Antras and Helpman (2004) show that firms with low productivity in the North tend to outsource domestically, whereas firms with high productivity are more likely to engage in offshoring. Thus, offshoring can facilitate the restructuring and development of high-value service industry in the South, raising the skill-overlap in the offshored industry and creating intra-industry trade between the North and the South in the long run.

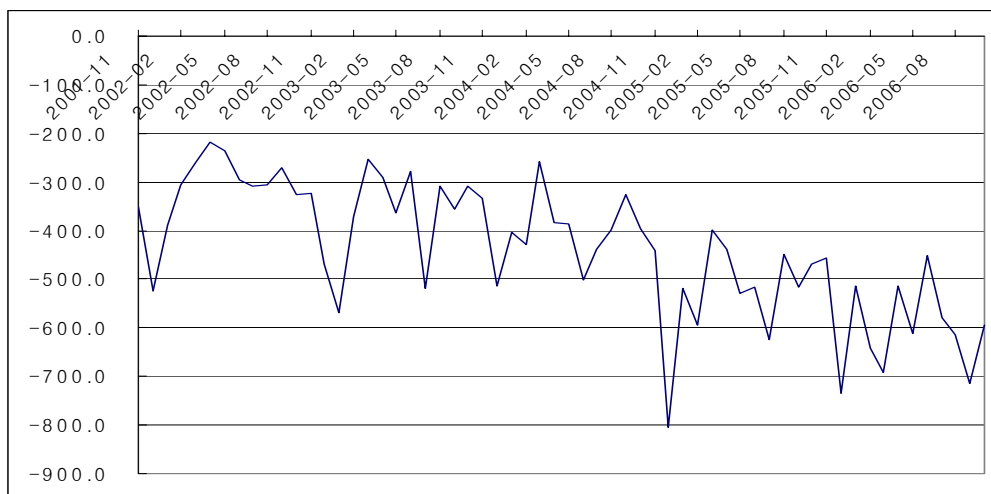
4. Offshoring Trends in Korea and Policy Implications

4.1 Offshoring Trends in Korea

There are no specific researches or statistics on what Korea's position is as an insourcer or an outsourcer of offshoring, but we can indirectly derive offshoring trends through Korea's export and import statistics, as well as inward and outward FDI statistics.

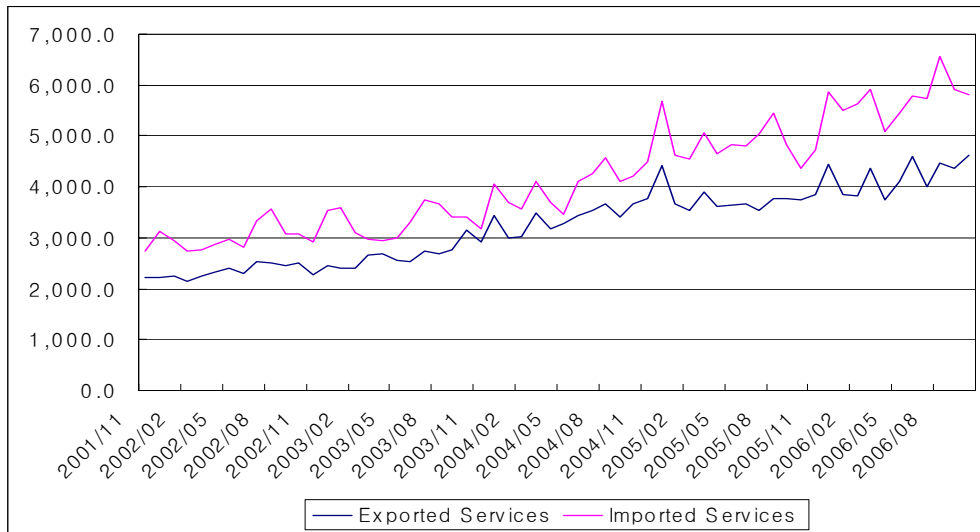
<Figure 9> shows recent trends in Korea's net export of business services and computer and information services - both of which are representative outsourcing sectors. As we can see, net import has been growing at a faster pace than exports since 2001. <Figure 10>, which shows total exports and imports in the service sector, reveals that while both exports and imports have increased, imported service is generally higher than exported, and the gap between two has widened over time. From these two figures, we can conclude that, with regard to offshoring, Korea has always been more of an outsourcer than an insourcer and this trend is increasing as time goes by.

<Figure 9> Net Export of business services and computer and information services in Korea
(Unit: Millions of US\$)



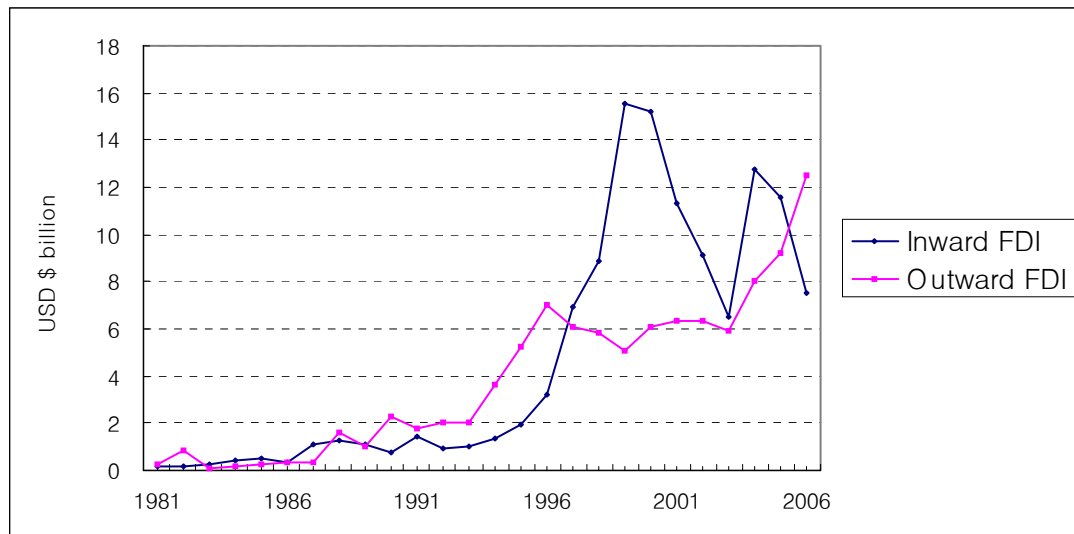
<Figure 10> Export and Import of Services in Korea

(Unit: Millions of US\$)



<Figure 11> shows Korea's inward and outward FDI trends for the last 25 years. It shows that outward FDI from Korea exceeded inward FDI to Korea from the late 1980s to just before the currency crisis; but, the tendency reversed after the currency crisis with inward FDI exceeding outward FDI up to 2005. This implies that Korea was an outsourcer country from the late 1980s to just before currency crisis, but from the currency crisis to 2005, Korea had become an insourcer country. But as the 2006 levels indicate, Korea is once again becoming an outsourcer country. Since the late 1980s to just before the currency crisis, large conglomerates in Korea expanded foreign direct investment for the purpose of securing foreign markets and acquiring advanced technologies. However, after the currency crisis, along with comprehensive investment liberalization, foreign investment increased sharply. Recently, though, small and medium sized companies as well as conglomerates are rushing to invest overseas in order to maintain global competitiveness.

<Figure 11> Inward and Outward FDI in Korea



Korea's offshoring trends as derived from trade and FDI statistics has different implications at the corporate level and the national level. At the corporate level, it is difficult to discern whether this trend is good or bad, because it is a natural consequence of corporate activities that include corporate survival, pursuing profits, and improving competitiveness. Making use of offshoring is an important method of improving a company's global competitiveness, whether Korean or foreign.

However, on the national level, Korea's recent offshoring trends have the following implications for the Korean economy. The strengthening of Korea's role as an outsourcer country (in both offshore outsourcing and domestic offshoring) proves that enhancing the offshoring location attractiveness is necessary not only to improve the competitiveness of the Korean service sector but also to improve Korea's international business environment. Improving Korea's international business environment is especially important to continue steady growth and provide sound employment. To this extent, the following sections will propose a comprehensive approach to improve Korea's attractiveness as an offshoring location.

4.2 Korea's Offshoring Location Attractiveness and Policy Implication for Korea

Korea ranked 24th on the "2005 Offshoring Environment Rankings", which is surveyed among 60 countries by the EIU. <Table 3> compares Korea with 10 other Asian countries included in this survey. Among the 11 Asian countries, Korea ranked 9th. <Table 4> lists the evaluation indicators in the "Offshoring Environment Rankings" and their weightings. The indicators with the most influence in this survey were those related to labor issues: labor cost and labor skill, which account for 60 percent of total importance. Korea ranked the lowest among the 11 Asian countries in terms of labor cost, which contributed Korea's low ranking as a offshoring location.

<Table 3> Korea's Position in offshoring environment rankings

	Proxi- mity	Political environ- ment &secu- rity	Macro- econo- mic stability	Regul- atory environ- ment	Tax regime	Labour costs	Labour skills &avail- ability	Labour regula- tion	Infra- struc- ture	Total score	Rank
India	4.37	7.20	8.40	6.00	6.50	9.69	7.78	7.33	4.60	7.76	1
China	8.07	6.00	9.20	5.25	5.50	9.70	6.46	5.33	5.20	7.34	2
Singapore	5.90	8.40	8.80	9.50	8.50	6.23	6.92	8.00	7.40	7.25	4
HongKong	7.24	6.80	9.60	8.50	8.50	7.33	5.65	8.67	8.20	7.19	7
Philippines	7.17	6.00	8.40	5.75	7.50	9.80	5.18	8.00	5.00	7.17	9
Thailand	5.59	7.60	9.60	6.25	7.50	9.65	4.87	7.33	6.00	7.16	10
Malaysia	5.92	7.60	9.20	7.00	8.00	8.52	5.65	7.33	5.40	7.13	11
Taiwan	8.04	7.60	9.60	8.25	8.00	6.80	5.79	8.00	7.80	7.05	16
S.Korea	9.01	7.60	9.60	7.75	7.00	5.58	6.09	7.33	8.00	6.70	25
	(17)	(24)	(6)	(27)	(24)	(41)	(15)	(19)	(5)		
Vietnam	6.51	5.60	6.40	5.00	6.00	9.75	4.74	7.33	3.00	6.59	30
Indonesia	4.43	4.00	8.80	4.50	5.50	9.91	4.89	6.00	4.20	6.54	32
Average	7.09	7.12	8.49	7.13	6.60	7.13	5.40	6.94	5.99	6.58	

Sources: EIU, Offshoring Environment Rankings, 2005

<Table 4> Indicators in the EIU's offshoring rankings model and their weightings

Indicators	Weightings
Labour costs	0.3
Labour skills	0.3
Labour regulation	0.1
Proximity	0.05
Political and security risk	0.05
Macroeconomic stability	0.05
Regulatory environment	0.05
Tax regime	0.05
Infrastructure	0.05

Sources: EIU, Offshoring Environment Rankings, 2005

It is well known that Korea's high labor costs make it difficult to attract foreign investment. However, there are some countries which have high attractiveness as an offshoring location despite having high labor costs. Singapore is the representative example in Asia. This difference in the level of attractiveness is mainly attributable to disparities in the skill of labor of Korea and Singapore. For the labor skill indicator, Korea received an evaluation of 6.09 and whereas Singapore received a high evaluation of 6.92. This difference begs the questions: what differences exist in terms of labor skill between the two countries?

EIU used four indicators to assess labor skills: ① quality of math and science education, ② English language skills, ③ technical skills of the workforce, and ④ labor force availability. The measure of English language skills reflects a combination of TOEFL scores (TOEFL is a Test Of English as a Foreign Language) and a qualitative assessment of the availability of English related to population size. For example, the average level of English proficiency is relatively low in India, but because of the size of the country's population it still offers a massive pool of English-speakers. In the case of Korea and Singapore, the substantial gap between the two lies precisely in English language proficiency.

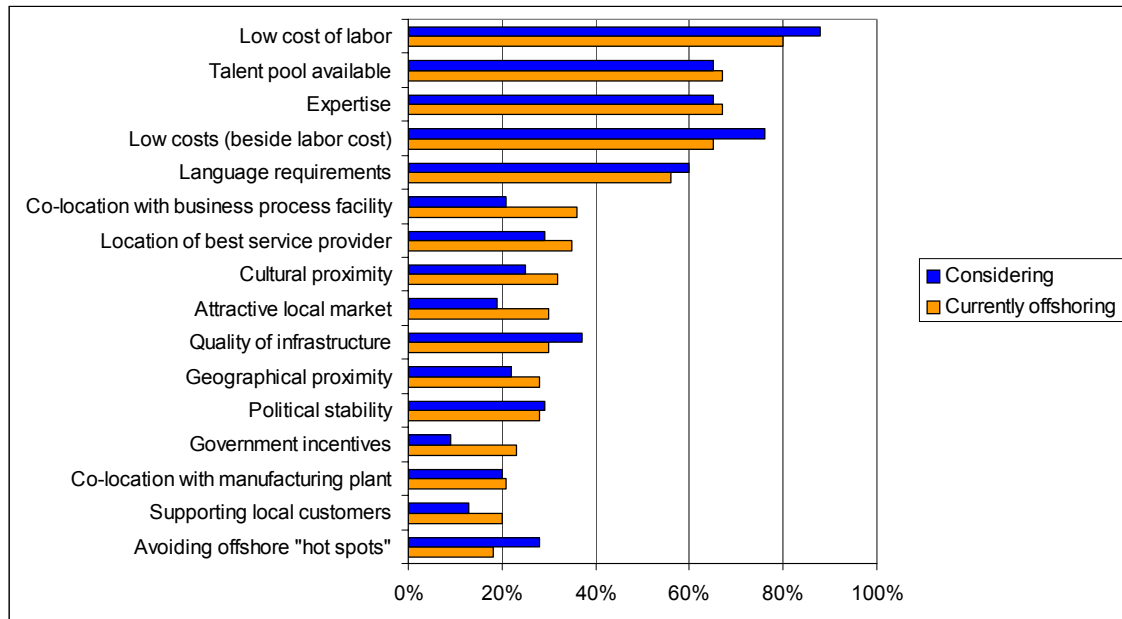
In addition, other indicators in which Korea ranked relatively low are: the regulatory environment, labor regulations, and tax regime are . Given that these indicators are related to the efficiency of public administration, more efforts from the governmental sector are required to raise the attractiveness of Korea as a offshoring location. In particular, foreign investors still complain of tangible and intangible regulations related to business activities despite government efforts for years. Regulations in Korea are so burdensome and complicated that even managers of foreign-invested firms in Free Economic Zones, which were specially designed to reduce burdensome governmental red-tap, complain of the difficulty in obtaining licenses.

5. Policy Suggestions for Enhancing Korea's Offshore Location Attractiveness

5.1 Key Issue

The Offshoring Environment Rankings Survey conducted by the EIU reveals that offshore location attractiveness is affected by labor costs and labor quality. Furthermore, in a survey on the offshoring activities of MNCs in the US and Europe by Offshore Research Network (2006), two labor factors are considered to be the most important criteria for choosing offshoring locations: the assurance of high quality human resources and low labor costs (Figure 12). High quality human resources refers to talent pool availability, level of expertise, and language skills. In order to enhance Korea's offshoring location attractiveness and offset high labor costs, greater expertise, especially in English, is required.

<Figure 12> Reasons for Choosing Offshoring Locations



Source: Arie Y. Lewin, From Offshoring to Globalization of Human Capital? Findings from Offshoring Research Network (ORN) Project, KIEP LES Seminar on Nov. 7, 2006.

5.2 Cultivate work forces with technical expertises as well as English proficiency

A lack of English proficient workers and technically skilled human resources is the biggest obstacle in attracting offshoring to Korea, especially in the higher value-added businesses, like IT, international finance and distributions, business supporting services, education and medical services, BT, and R&D. These businesses also represent strategic industries through which Korea could gain the momentum necessary for further economic growth. Therefore, a systematic approach needs to be adopted to develop human resources with technical skills, as well as English proficiency.

1) Stepwise launching of English as an official language

In line with this approach, English needs to be authorized as an official language in Korea. However, since opposition to English as an official language remains very high, a stepwise implementation is suggested beginning in the

Free Economic Zones. It is recommended that not only official documents and signboards be written in English, but also more weight be given to English throughout the whole course of education - requiring more English speaking classes and more frequent use of English version of textbooks.

2) Innovate the public education system to enhance English language skills

The enhancement of English proficiency also requires changes in the public education system. Together with the establishment or invitation of foreign schools, a program to develop globalized human resources within the general educational system need to be encouraged much more. Some methods we can consider are making classes with native speakers compulsory in elementary schools, thus putting more weight on English classes, and conducting classes on global economics or global business in English for high schools.

Due to the strong opposition towards expanding English classes in public schools, it is suggested that an experimental trial be carried out first in the public educational systems of the FEZs. The education system in this area should necessarily be globalized so that resident foreign businessmen can even send their children to the public education system rather than into a foreigners' school.

3) Strong Support for Science and Engineering Education

In the past, many talented high school graduates studied in science and engineering and, today, they constitute the basis of high skilled labor in Korea. But things may totally change in the future as high school graduates continue to avoid entering fields in science and engineering: applicants for medical school and law school have increased among high-achieving pupils, while those applying for science and engineering have continued to decrease over the past ten years. Greater support for education in science and engineering needs to be taken to reverse this undesirable trend.

5.3 Invite Talented Human Resources from Overseas

In order to become an attractive offshoring location, Korea must also have an attractive a pool of talented global human resources. That is, we need to a less regulative labor market (from a global perspective), where international work forces can be employed regardless of their nationalities.

To this end, job opportunities for foreigners educated in the domestic system need to be extended, centering especially on FEZs. The student body at the graduate school of international studies, where I lecture, mostly consists of foreign students, who wish to work at Korean companies or MNCs in Korea for a certain period after they graduate from school. The reality is, however, that job opportunities are limited for foreigners. Thus, it is recommended that a progressive rearrangement of regulations in immigration control and foreign labor force be instituted to create more job opportunities for foreign students educated in Korea.

In addition, the efforts to create a favourable environment for international human resources need to be made, again starting in the Foreign Economic Zones. In line with this, we need to benchmark the strategies used by Singapore. Singapore has already changed its development strategy of operating as a special economic zone for manufacturing (with emphasis on effectiveness of facilities) to a regional business hub focused on service industries that require talented and innovative work forces. Under this new strategy, the policies for inviting innovative and creative workers are regarded as more important than those policies for inviting MNC investments (Kim Song Tan, 2006).

In order to attract innovative international human resources, we must, above all, allow systems related to foreign employment to be as free as possible. And renowned universities need to be located in Korea, establishing premium faculties with global standards, as well as attracting promising foreign students. Talented foreign workers should be free to

purchase houses in Korea. Moreover, the mass media of different cultures should be available. The balance between cooperation and competition among foreign and domestic medical centers is also desirable to further establish high quality medical services.

6. Concluding Remarks

As international trade and investment liberalize and information and telecommunication technologies develop, offshoring activities will continue to expand exponentially worldwide. Such activities by MNCs are increasing in both manufacturing and services. Recently, though, offshoring has been changing the core competency of firms. With increasing trends in offshoring, many are concerned that the Korean economy may have difficulty in continuing steady growth with stable job creation as it increases its role as an outsourcer. However, shifting the position of the Korean economy from outsourcer to insourcer demands an improvement in the quality of human resources to offset high labor costs. Innovative reforms in English education is necessary for supplying internationally competitive human resources, as well as encouraging more competent people to enter the fields of science and engineering. If even these measures prove to be insufficient to develop internationally competitive human resources, we would then need to build a free and open social system and create a living environment that provides a higher quality of life, aimed at attracting competitive global workforces into Korea, irrespective of nationalities.

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