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Costs of Globalization

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Abstract

Globalization has both costs and benefits. In this paper we would focus upon one of the damages of globalization to China. It is said that inward FDI replaces local domestic capabilities in import-substitution countries. In the case of China the Chinese domestic industries are lacking technological innovations because of heavy reliance upon FDI. Most of the Chinese exports of electronics are carried under FDI whereas in Korea and Japan they are indigenously-driven. In 1960s, Korea received foreign capital in the form of loans but it denied the entrance to foreign firms. Korea followed the Japanese model by quickly mastering the foreign technology rather than letting foreign firms to establish local subsidiaries and to decide the speed and scope of technology diffusion. Korea and Japan adopted the techno-nationalist policies for attaining autonomous domestic innovated industries. By restricting FDI, Korea and Japan were able to maintain their management independent of Multi-National Companies. In this paper we would try to analyze that whether China's policy of reliance upon FDI is a success or a debacle by comparing it with Korea and Japan.

Keywords: Human capital investments, Returns to education, Sheepskin effects, China.

1. Introduction

FDI is an important source of technology transfer from developed countries to developing countries and it leads to economic growth via increase in productivity and employment opportunities. But many import-substituting countries were hesitant of FDI as some argued that FDI destroys the local capabilities. The major breakthrough started to occur in 1980s when after the decades of skepticism developing governments started to belief

that FDI could play a crucial role in the development. Afterwards, many governments have liberalized FDI regime and fully facilitated FDI. To attract FDI, developing countries provided preferential treatment to foreign investors in the form of tax holidays along with the provision of tremendous infrastructure. The belief behind this preferential treatment is that FDI generates externalities in the form of technology transfer.

In 1978 China moved from an isolationist approach aimed at achieving technological development. China created special economic zones in Guangdong and Fujian provinces for foreign investors. The Chinese desire of FDI was aimed at four modernizations; the modernization in agriculture, industry, science and technology and national defense. It is interested to note that since 1990s Chinese exports have become increasingly sophisticated and China is passing through an era of miraculous growth. Chinese exports are now dominated by machinery and electrical goods as compared to footwear, apparel and textiles previously. China has graduated from exports of labor intensive to the exports of capital extensive.

The speed with which China has transformed itself from peasant society into industrial powerhouse is quite astonishing for the countries of industrial world. It is speculated that China would soon enter in the ranks of developed countries by skipping the usual long process of industrialization. This tremendous growth has generated anxiety among developed countries and some observers are posing it as a threat to capital-intensive countries. Especially electronics exports have increased at accelerating pace. Electronics is now considered as big economic muscle of China. China has achieved phenomenal and skyrocketed growth in the exports of consumer electronics. According to conventional wisdom China has become world's economic center of gravity and regional economic giant because of its rising exports of electronics. From 1980s, onwards electronics industry became the focus of Chinese government. In 1982 Ministry of Electronics Industry was established. Further in 1998, the Ministry of Information Industry (MII) was established. The electronics sector was highly favored in the Seventh Five Year Plan (1986-1990) as Chinese planners thought that modern electronics will have a multiplier effect on the entire economy.

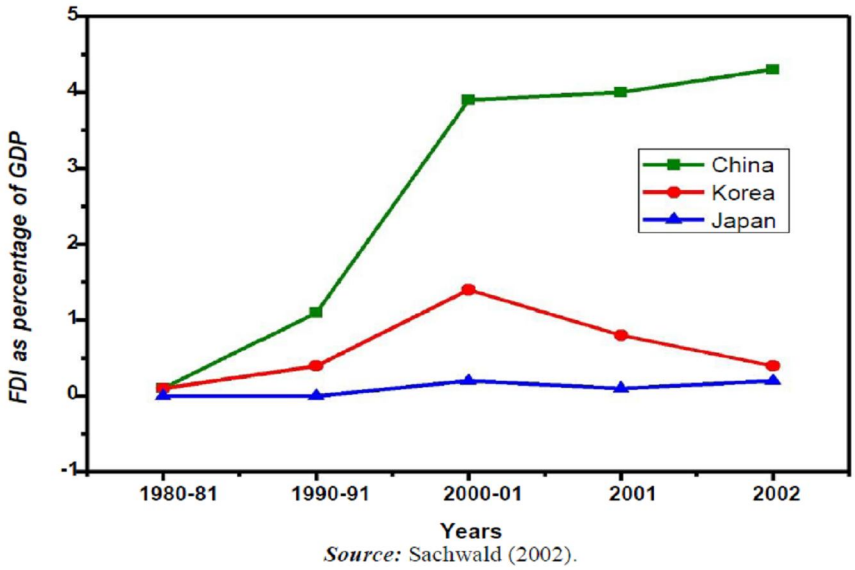
The Korean electronics industry started to rise in the 1960s as an industry of very poor developing country with scarce resources. But now the Korean electronics industry has developed tremendously. Even the Korean consumer electronics are second largest suppliers after Japanese firms. Korea followed the Japanese model by quickly mastering the foreign technology rather than letting foreign firms to establish local subsidiaries and to decide the speed and scope of technology diffusion.

As Korea began its modern economic growth in the 1960s, it encouraged foreign capital inflow to make up for lack of domestic savings and foreign reserves as stated by Kim Wan–Soon. The general fear of foreign domination of Korean industry, stemmed from Korea's history of Japanese colonization. Suspicion still lingers that FDI is really a means to dominate Korean industry (Wan-Soon 2000).

While Japan's defeat in World War II meant a radical de-emphasis of the military, the Japanese continued to pursue the goal of economic strength (Ellington 2004). During 1960s Japan concentrated on adaptation and improvement of borrowed foreign technologies. Economic aid in the form of capital and technology flowed in from the United States (Kemp 1983).

Figure 1: Inward FDI Flows as Percentage of GDP

Years	China	Korea	Japan
1980-81	0.1	0.1	0
1990-91	1.1	0.4	0
2000-01	3.9	1.4	0.2
2001	4	0.8	0.1
2002	4.3	0.4	0.2



Source: Sachwald (2002).

Explanation: In 1980, FDI in China was just 0.1 of GDP as it was the start of opening up inChina. But afterwards it kept on increasing as it is clear from the table and graph. In 2002, FDI in China as % of GDP was 4.3 whereas in Korea and Japan it was just 0.4 and 0.2 respectively. We can see a strong attraction of FDI by China as compared to Korea and Japan. The reason is obvious that China facilitated FDI but Korea and Japan restricted FDI because of foreign domination fear. After the Asian crisis, Korea experienced an increase in FDI in 1999-2000 but later the old fears of foreign competition and intrusion once again dominated the Korean Economy.

2. Evolution and FDI Strategy of Chinese Electronics

China started to give importance or considerations to the electronics industry as early as the mid-1950s by introducing Soviet technology. By the end of decade 60 plants of electronics were operational in China. The decade of 1950 was very conducive and supportive to Chinese scientists and intellectuals for conducting the research being

required in the flourishment of electronics industry. But the Hundred Flowers Campaign of 1957 and the Great Leap Forward of 1958 retarded and hampered the logic of scientific inquiry being desired for the development of electronics industry. Initially China received technology from Soviet Union as compared to West because of adherence to Communist Ideology.

After the creation, China followed and imported technology from Soviet Union. With the Soviet Union as its model, China made rapid progress in nuclear technology, space technology, and genetic engineering in the 1960s and 1970s (Hu and Jefferson 2004).Initially China imported foreign technology but was extremely handicapped by the lack of skilled personnel for the efficient utilization of the equipment's. The problems of China were compounded during the regime of Mao Zedong. The researches and scientists were isolated from regular international contacts when the West was making unprecedented progress in the electronics sector. In 1960s after the Cultural Revolution of a 1966 a debate over "Steel versus electronic" started among the

Chinese leadership. Heavy industry was favored against the innovative modern electronics. In 1970s most of the electronics production took place for military purpose. After the death of Mao Zedong, innovative electronics industry was once again the focus of Chinese authorities. Deng Xiaoping removed the barriers in the way of technological importation (Pollack 1985).

China had also been in the state of technology autarky from the mid-1960s through the mid-1970s. When China and the Soviet Union abruptly split in the early 1960s, China was cut off from its technology source at a time when it had no alternative technology partners and very little market access to technology. In the period of 1949-1978, China's S&T development and policies were directed by ideologies, the Cold War environment, and political conditions. But after 1978, older facilities for the production of electronics were renovated and revitalized. During the regime of Deng Xiaoping, Special Economic Zones were established and preferential treatments were given to foreigners for setting up technology-intensive firms. Research scientists enjoyed greater prestige and training of young scientists took place for enhancing their skills and capabilities.

In the early 1980s the foremost important task for China was to shift away from Soviet-implanted model of S&T organization and management. This model was considered as major hurdle in the scientific and technological advancement of China. In China and Soviet Union research for the sake of research and production for the sake of production were taking place. There was no linkage between laboratory and factory.

FDI in China started with the creation of economic zones being comprising of special tax concessions**.** With respect to foreign direct investment (FDI), market openness really began with the creation of special economic zones (SEZs) in Guangdong and Fujian provinces in 1979 that allowed FIEs for the first time, charging such enterprises a profit tax lower than that applied to domestic enterprises. Through the 1980s, the number of these special zones increased substantially, and by 1991 many of the restrictions limiting FIEs to SEZs were lifted (Blonigen and Ma 2007).

Basically, the government established four SEZs in the two southeast coastal provinces, Guangdong and Fujian being possessing tremendous infrastructure along with tax concessions and exemption from import and export duties for different equipment's and technologies used inthe production. In Guangdong province, three SEZs are

established in Shenzhen, Zhuhai and Shantou. There is also a fourth SEZs, Xiamen, in Fujian province. It is a relatively industrialized city, located near Taiwan, only divided by the narrow Taiwan Strait (Fung, Iizaka& Tong 2002).

From 1980s, onwards electronics industry became the focus of Chinese government. In 1982 Ministry of Electronics Industry was established. Further in 1998, the Ministry of Information Industry (MII) was established. The electronics sector was highly favored in the Seventh Five Year Plan (1986-1990) as Chinese planners thought that modern electronics will have a multiplier effect on the entire economy. Consumer electronics was identified as sector of priority in mid 1980s.By 1985; about 147 color TV production lines were imported. Color TV localization was also listed as priority projects in the National 7^{th} five year plan. Color TV exports have expanded since 1997.

FDI in Chinese electronics is both import substitutive and export-oriented. Import-substitutive FDI was targeted as a source of advanced technology, while export-oriented FDI was also encouraged to reap export expansion and employment effects (Zhao, Huang, Ye and Gentle 2007).

3. Evolution and FDI Strategy of Korean Electronics

The Republic of Korea relied primarily on capital goods imports, technology licensing and other technology transfer agreements to acquire technology as explained by Sanjaya Lall. It used reverse engineering, adaptation and own product development to build upon these forms of arm's length technology imports to develop its own capabilities. However, the Republic of Korea is one of the few developing countries that have been able to use imported technology to feed into domestic technology and to develop an independent innovative base (Lall 1995). The Korean electronics industry started to rise in the 1960 as an industry of very poor developing country with scarce resources. But the Korean electronics industry developed tremendously. Even the Korean consumer electronics are second largest suppliers after Japanese firms.

Korea followed the Japanese model by quickly mastering the foreign technology in the electronics field (Ernst 2000).Korea heavily depended on foreign aid for attaining economic prosperity as stated by Susan M. Collins. In 1981, Korea was the fourth largest debtor country in the world, behind Brazil, Mexico, and Argentina. Output had declined sharply in 1980.With a debt-to-GDP ratio of 50 percent, there were widespread concerns about Korea's ability to meet its debt obligations. However, Korea's economy was booming again by 1986 with a substantial trade surplus due to rapid export growth. In addition to meeting all debt service obligations, Korea had begun to repay the principal on its external debt (Collins 1990).

From the 1960s to the 1980s, restrictions on foreign ownership and activities in host developing countries were related to broader policies, which tended to promote local companies as part of import substitution strategies. Korean state policies toward multinationals remained restrictive and selective until the 1980s and were hesitant until the late 1990s (Sachwald 2002).

Electronics is the country´s leading export industry; and Korean electronics firms have developed strong positions in a number of important international markets. From a meager $ 89 million in 1971, Korea´s electronics exports grew to $21.5 billion in 1996. They are the second largest supplier, behind Japanese firms, for a broad range of consumer devices (Ernst 1998). During the 1960s and 1970s, the Korean consumer

electronics industry focused mainly on assembling foreign parts, usually for radios and black-and white TV sets. During the 1980s, however, the Korean consumer electronics industry has diversified its technological capabilities to such products as color TV sets, microwave ovens, compact disk players, camcorders and digital audio tapes (Kim 1998).

In South Korea, its first five-year economic development plan which started in 1962 began with promotion of import-substituting industries, but soon shifted to export-oriented industries to repay foreign loans. Further it is evident from the history that countries with export-oriented industrialization (EOI) grew faster than countries with import-substituting industrialization (ISI) The Korean government organized large-scale foreign loans and allocated them for investments in selected industries, and industries later reverse-engineered the imported capital goods to acquire the necessary technology. However, its technology transfer has been more reliant on foreign loans than on FDI (Walley and Zhou 2007).

Table 1: Korean FDI Developments (1950-2009)

Year	FDI Developments
1950-1960	Korean War 1950-53, corruption, political chaos and no FDI.
1961- 1970	Military revolution, flow of foreign capital in the form of loans and normalization of relations with Japan.
1971- 1980	Vast flow of FDI from Japan but in low-technology projects. Korean Government devised new policies for attracting FDI in high-tech industries.
1981- 1990	Steps taken to simplify administrative measures and to reduce red tape. Laws to combat piracy of intellectual property were adopted.
1991-1997	For boosting FDI Government created incentives in tax, land ownership, subsidized factories etc. Foreign Direct Investment Promotion Act adopted
1998-2000	Financial crisis, Government announced shift from “control and regulation” philosophy to “promotion and support” of FDI.
2001-2009	For a period of one to two years Korean Government exercised pressure for opening up but later the old fears of foreign competition and intrusion once again dominated Korean Economy.

Source: Stoever (2002)

4. Evolution and FDI Strategy of Japanese Electronics

After the WWII Japan departed from the policy of military strengthening and focused upon the objective of economic progress and prosperity for the wellbeing of Japanese. In the 1950s and 1960s, the Japanese success was often simply attributed to copying, imitating and importing foreign technology (Freeman 1995). Yuko Harayama also declared the imported technology as the main factor in the greatly improved production of Japan. During the 1950's, the trend for importing technologies continued. A new trend in technology appeared during the same period: private companies started to set up research laboratories, called "Central Research Laboratories," which were devoted to developing their own technologies (Harayama 2001).

Japan's ability to rise after the destruction of World War II, to overtake and outstrip the leading industrial countries, to build up powerful and technologically advanced industries almost from scratch and to establish a leading position in the world market has attracted wonder, admiration and foreboding (Kemp 1983).Those "miracle" decades began in 1950 with the "special-procurements boom" of the Korean war, when the U.S. military gave contracts worth $2.4 billion (about $10 billion in today's money) to Japanese companies, including orders for 7,079 trucks that, Johnson says, were "the key to the revival of the Japanese automotive industry. These contracts, plus spending in Japan by U.S military personnel, proved a foreign-exchange windfall for Japan in a dollar-scarce world economy, providing the means to import machinery that led to the 1953 investment boom(Gall 1983).

Japan's post-war development strategy relied on a public-private partnership. The government sought to modernize the economic base by selecting promising industries and actively nurturing capacity by limiting competition, supporting research, development, and technology transfers, and encouraging the extension of credit. (Blomstrom, Konan and Lipsey 2000).During the last half of the 1950s, such industries as synthetic fiber, plastics, petrochemicals, electronics and general machinery were considered "growth industries" suitable for promotion.

The automotive and heavy electric industries were highly protected by tariffs and import quotas. In addition, high-technology imports were encouraged to catch up with advanced countries (Kagami 1995). The 1964 Tokyo Olympics provided a particularly strong stimulus to demand for consumer electronics. Since the 1970s, demand for consumer electronics equipment has benefited from the economy's high rate of growth. Players in the consumer electronics market include major electrical appliance manufacturers such as Matsushita, Sony, Sanyo, and Sharp, and giant firms such as Hitachi, Toshiba, and Mitsubishi, who have staged a continuing race to develop new products. Until 1957 radios were the leading product of Japan's electronics industry, then from 1958 to 1967 black and white TVs became the front-runner. They were supplanted by color TVs from 1968 to 1972 and then audio equipment led for a decade. Video cassette recorders became the leading product in 1982 and since 1987 video camera recorders have made a strong showing (Yamada 1990).

The shift from the status of follower to front runner in the innovation race requires a strong complementarity between basic and applied research, which implies reinforcement of the cooperation between universities and industry and collaboration between the ME and other S&T related ministries and agencies, especially the MITI, and the foundation of

an integrated innovation system based on the Industry-University-State tripartite cooperation. The first Basic Plan, covering the 1996-2000 period, mainly focused on the improvement of R&D conditions. The Basic Plan recognized the need to increase government investment in R&D to the level of Western countries, to create a competitive R&D environment, to improve R&D capability in the private sector, and especially, to reinforce Industry-University cooperation (Harayama 2001).

5. Conclusion

In the nutshell, the Chinese electronics relied heavily upon FDI whereas Korea and Japan restricted FDI and were able to maintain their management independent of Multi-National Companies. Korea and Japan adopted the techno-nationalist policies for attaining autonomous domestic innovated industries. Resultantly, today Korean and Japanese electronics firms are enjoying a very strong and dominant place in international markets. The electronics industry is the leading manufacturing sector in Korea, and it imported more foreign technologies than any other sector. Korea focused primarily on capital goods imports, technology licensing and other technology transfer agreements to acquire technology. The general fear of foreign domination of Korean industry rose from Korea's history of Japanese colonization. Korea followed the Japanese model by quickly mastering the foreign technology rather than letting foreign firms to establish local subsidiaries and to decide the speed and scope of technology diffusion.

Japan started to embark upon technological path after World War II as they considered their inferior industry and technology as the main cause of defeat. Japan promoted and protected particular industries and discouraged foreign firms. Economic aid in the form of capital and technology flowed in from the United States. Japanese firms simply imported, copied and imitated foreign technology but restricted FDI. The demands from US market and the 1964 Tokyo Olympics provided a very strong stimulus to the Japanese electronics.

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