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국제학석사학위논문

**The Value of the Kaesong Industrial Complex  
to North Korea:**

**Economic Implications of the Shutdown Incidents  
in 2009 and 2013**

개성공단이 북한에 대해 갖는 의의:  
2009년과 2013년 중단 사태의 경제적 함의를 중심으로

2016년 8월

서울대학교 국제대학원

국제학과 국제협력전공

윤 하 영



**Master's Thesis**

**The Value of the Kaesong Industrial Complex  
to North Korea:**

**Economic Implications of the Shutdown Incidents  
in 2009 and 2013**

Thesis by

**Hayoung Yoon**

Graduate Program in International Cooperation  
For the Degree of Master of International Studies

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**Graduate School of International Studies  
Seoul National University  
Seoul, Republic of Korea**



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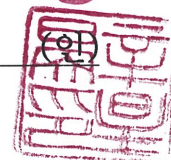
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**The Value of the Kaesong Industrial Complex  
to North Korea:  
Economic Implications of the Shutdown Incidents in 2009 and 2013**

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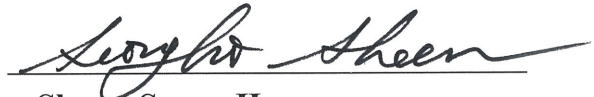
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## **Abstract**

### **The Value of the Kaesong Industrial Complex to North Korea:**

Economic Implications of The Shutdown Incidents in 2009 and 2013

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North Korea has been developing Special Economic Zones (SEZs) to push their economic development. Among the SEZs, Kaesong Industrial Complex (KIC), North-South Korean joint economic zone, is significant in that it serves as a symbol of inter-Korean cooperation and is the only source of economic cooperation. However, North Korea has shut down the complex in 2009 and 2013 to raise the tension on the peninsula and take a provocative stance against the international community's hardline response. This research aims to explain why the North decided to reopen the complex for both times. This question will be answered by analyzing the direct and indirect economic indicators for SEZs. First, the direct indicators will be examined through the case studies of the two shutdown periods in 2009 and 2013. The indirect indicators, on the other hand, will be discussed within the overall period of KIC operation as the indicators deal with long-term economic development. Then, the two case studies of direct economic effects will be compared to evaluate which factors were more significant to the reopening of each period. Lastly, the implications for the indirect effects will assess the significance of the role of KIC to the long-term economic growth. The findings of this research confirm that the KIC did bring both direct and indirect economic benefits to North Korea. Moreover, both imminent and long-term economic benefits impacted the North Korean government to reopen from both shutdowns.

**Keywords:** Kaesong Industrial Complex, Economic Effects, Special Economic Zones, North Korea Economy

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# **I. Introduction**

## **1. Research Background**

Recent years, North Korea has been conducting experiments by creating more Special Economic Zones (hereinafter, SEZs) as they push to put their priorities into economic development. SEZs have become the laboratories to North Korea's economic reform projects and they are crucial not only in the economic field but also within the political aspect. Among the SEZs in North Korea, Kaesong Industrial Complex (hereinafter, KIC) is significant in that it serves as a symbol of inter-Korean cooperation and is the only source of economic cooperation. It resulted from an initiative from the Hyundai Group which coincided with the South Korea's "sunshine policy." Even though the KIC was initiated by the South, North Korea was more willing to accept the proposal mainly due to its economic crisis which they have suffered for 10 years since the late 1990s. Despite numerous tensions between North and South Korea, such as the Cheonan sinking, the complex continued to operate and moreover expand. However, North Korea unilaterally shut down and reopened the complex in both 2009 and 2013 to raise the tension on the peninsula and take a provocative stance against the international community's hardline response.



### **1-1. Special Economic Zones (SEZs) in North Korea**

North Korea was initially antagonistic towards the SEZs. However, their attitudes modified throughout the years as the Chinese SEZs proved to be successful since the late 1970s. By the mid-1980s, the North Korean government began to acknowledge the zones and published the Dictionary of Economics which it explained the definition of the new terms such as “special economic zones” and “industrial district.” The dictionary differentiates the two concepts by elaborating at SEZs diverse economic systems are accompanied on socialist economic system.<sup>1</sup>

The first SEZ project was initiated in 1991, when the government established a “Free Economy and Trade Zone” at Rajin-Sonbong. Located in the northeastern part of North Korea, Chinese and Russian companies have invested throughout this zone. After the first experiment with the Rajin-Sonbong, the government revised its laws to promote further foreign investment. The 1992 modified laws opened up to South Korean investment which expanded to include finance and services sectors. Additionally, the 1999 revision guaranteed the South Koreans status of being foreigners to redefining them as “overseas Koreans.”<sup>2</sup>

The government continued to demonstrate its willingness to open to more foreign investment, capital, and technology. In 2002, the North created the Sinuiju Special Administrative Region (hereinafter, SAR), Mt. Kumgang Tourist Zone and the KIC. SAR as well as the Rajin-Sonbong are classified as trade-centered zones

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<sup>1</sup> Social Science Publishing, 1985. *Dictionary of Economics*, Pyeongyang,

<sup>2</sup> Lee, Eric Yong-Joong. 2000. “Development of North Korea’s Legal Regime Governing Foreign Business Cooperation: A Revisit under the New Socialist Constitution of 1998.” *Northwestern Journal of International Law & Business* 21.1: pp. 203.

with geographic advantage utilizing transportation and infrastructure. Mt. Kumgang is a tourism-centered zone developed as an international tourism site. Finally, KIC is a manufactured-centered zone, and as a general SEZ, the site is designed to bring production base enterprises.<sup>3</sup> Since KIC, there have been no further efforts from the North Korean government in creating more zones. Yet, with the new leader Kim, Jong Un, more SEZs are planned and organized all around the country as a strategy for economic development.

## **1-2. Development of Kaesong Industrial Complex (KIC)**

KIC had to overcome numerous obstacles until its opening in 2004. The idea itself goes early back to 1989 when Mr. Chung Ju-yung, the Chairman of Hyundai Group, made great efforts to execute his ambitious plan to create an industrial park in North Korea. Along with the initiative from the Hyundai Group was the embodiment of the South Korean government's "sunshine policy."<sup>4</sup> During the historical first summit between the two Koreas in 2000, the two leaders discussed the idea of inter-Korean business cooperation. However, North Korea pursued to develop the zone in Shinuiju rather than in Kaesong as the main candidate for the complex. Through numerous site inspections and negotiations, the

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<sup>3</sup> Lim, Sung-hoon and Taeg Lim Kang. 2006. "Special Economic Zones as Survival Strategy of North Korea." *North Korean Review*, Fall.

<sup>4</sup> Levin, N. D. and Y. S. Han. 2002: *Sunshine in Korea*. RAND: Santa Monica, CA ; Nam, S. W. 2001. "Theory and Practice: Kaesong and Inter-Korean Economic Cooperation." *East Asian Review* 13 (1): pp. 67–88.; Snyder, S. 2005. "South Korea's Squeeze Play." *The Washington Quarterly* 28 (4): pp. 93–106.; Lim, Eul-chul. 2007. *Kaesong Industrial Complex: History, Pending Issues, and Outlook*. Haenam Publishing Company: Republic of Korea.

old capital of the Koryo Dynasty, Kaesong was finally designated as the special economic zone. As a historical site, this area was not only for the industrial purposes but also as a tourism spot. Yet, such optimism of developing the economic venture could not last as the KIC planning was deferred for almost two years. Internal issues such as power struggles among Hyundai's management and financial problems further delayed the process. There were also international constraints which were pressured when President Bush identified North Korea as the "Axis of Evil" in 2002.<sup>5</sup> This statement led North Korea to freeze all cooperation with the South. Moreover, the Mt. Kumgang tourism business brought great financial burden to Hyundai while the number of tourists continuously declined. Nonetheless, things started to brighten up as the negotiations resumed during the end of 2002. Eventually, North Korean authorities announced the "Laws on the Kaesong Industrial District" and this instigated the process of establishing laws and regulations of the complex.

The complex was situated 160km from Pyongyang and 70km from Seoul and was developed under three stages: 800 acres in the first, 1,200 acres in the second, and 2,800 acres in the third stage. The pilot complex called for small and medium enterprises (hereinafter, SMEs). During its earlier stages, the KIC had great support from the SMEs as they were greatly interested in the complex for its economic advantages, especially the cheap labor costs. Under high pressure, the two Koreas finally reached an agreement by signing the "Agreement regarding admission and staying in the Kaesong Industrial Complex and Mt. Kumgang

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<sup>5</sup> Lim, Eul-chul. 2007.

Special Tourism Zone.”<sup>6</sup> This agreement, on the contrary, brought many concerns to the North Korean leaders. According to the law, South Koreans would not have to go to court for any violations and they were able to visit the North without separate personal security guarantee paperwork. Even though this agreement was very sensitive and risky, the North Koreans were strategic to sign it so that there were no further delays of the development of KIC. Some analyze that such decisions show how much the economic interests made from the KIC were more important than legal supervisions and political stability.<sup>7</sup>

Finally on April 2004, the Ministry of Unification agreed to give business approvals and this date became the starting point of inter-Korean economic cooperation. 15 companies were selected and by end of 2004, the first product in KIC was produced. At last, in April 2005, products made in KIC were exported for the first time and it continued to flourish as its production level reached 500 million USD in 2008.

### **1-3. General Implications of KIC to North Korea**

North Korea has great incentives to keep the joint economic zone in full operation. KIC is one of the only few sources to attain foreign currency as well as an opportunity to experiment with marketization which will assist in stimulating

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<sup>6</sup> This agreement is also referred to as “the Passage Agreement.”

<sup>7</sup> Lim, Eul-chul. 2007

growth and economic revival to the country.<sup>8</sup> Overall, the KIC accounted for 99 percent of total inter-Korean trade in 2012 and the production levels continued to grow throughout the years of operation.<sup>9</sup> Even though the production shrank in the 2009 and 2013 due to the unilateral closure of the complex from the North, the complex still holds great value since its first development in 2004. The complex also employs 54,000 North Koreans.<sup>10</sup> Furthermore, SEZs generally have an impact on the development of the human resources especially in a low-income country like North Korea. The business knowledge and technology from foreign companies bring a rise in the quality of workers and overall business management.<sup>11</sup>

In addition to its economic significance, KIC has been a symbol for the inter-Korean cooperation. More importantly, the complex serves as a strategic tool for the regime and provides leverage to influence South Korean policies. The KIC is also connected to the leadership as the economic projects will reinforce the regime's political legitimacy. Moreover, the profits are the major source of hard currency to the Kim regime along with the \$450 million from Hyundai Asan to

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<sup>8</sup> Yun, Sarah. 2009. "Kaesong Industrial Complex: Is It Changing the DPRK?" *SAIS US-Korea Yearbook*, US-Korea Institute at SAIS: pp. 183-204.

<sup>9</sup> Cho, Bong-hyun. 2012. "Trends of Inter-Korean Trade," *Kaesong Industrial Complex Development and Inter-Korean Relations*, Issue of *Korea Focus*, ROK Ministry of Unification.

<sup>10</sup> Kaesong Industrial District Management Committee. "Current Condition of Operation." Accessed December 19, 2015. <https://www.kidmac.com/kor/contents.do?menuNo=100158>.

<sup>11</sup> Lim, Eul-chul. 2013. "Capacity Building at the Kaesong Industrial Complex: Implications for North Korea's Economic Zones," *International Journal of Korean Unification Studies*, Vol. 22, No. 2: pp. 91-113.

purchase the business license in the North.<sup>12</sup> Some officials estimate the revenue to the regime to be around \$20 million per year.<sup>13</sup> Even though the North would become more vulnerable to face the risk the possibility of the external influence penetrating the North Korean society, the zone is also one of the few outlets for the country to interact to the outside world.<sup>14</sup> Therefore, KIC was critical for both the North Korean regime and overall economy.

## **2. Literature Review**

### **1-1. Literature on Competitiveness of KIC**

The main literature regarding the KIC first discusses why Kaesong in North Korea would be more preferable and profitable for South Korean companies than other SEZs in different countries such as in China or South Korea. As can be seen from Table 1, compared to other low-cost countries such as China, Kaesong would be more preferable for profitable business by having lower monthly wage and corporate income tax.<sup>15</sup>

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<sup>12</sup> Yun, Sarah. 2009.

<sup>13</sup> Manyin, Mark, and Dick Nanto. 2011. "The Kaesong North-South Korean Industrial Complex," *Congressional Research Service*, April 18.

<sup>14</sup> International Network for Economics and Conflict. 2013. "Investing in Peace: The Korean Peninsula and the Kaesong Industrial Complex," *United States Institute of Peace*, July 15.

<sup>15</sup> Nam, Chang Woon. 2012. "Kaesong Industrial Complex: The Second Free Economic and Trade Area in North Korea." *Internationales Asienforum*. Vol. 43. No. 3-4: pp. 351-371; Park, S.S. 2004. "The North Korean Economy: Current Issues and Prospects." Paper presented at the Conference of the Association of Korean Studies in Canada, Vancouver, 3-4 October 2003. ;

**Table 1: FDI determinants: KIC, China, and South Korea (2002)<sup>16</sup>**

	<b>KIC</b>	<b>China</b>	<b>South Korea</b>
<b>Monthly Wage (US \$)</b>	58	100-200	423
<b>Legal working hours per week</b>	48	44	44
<b>Corporate Income tax</b>	10-14*	15	23-28

Sources: Nam, 2012; Park, 2004; Yoon, 2007

Kim even further elaborates this argument by comparing KIC's wages with both Chinese workers in China and North Koreans' working in China.<sup>17</sup> If the ratio of the labor cost was to be 1 for Kaesong, the Chinese workers working in China would be 2.9 while North Koreans working in China would be 2.2.<sup>18</sup> Therefore, Kaesong would be more profitable to the South Korean firms as it has

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Yoon, S. 2007. "An Economic Perspective of Kaesong Industrial Complex in North Korea." *American Journal of Applied Science* 4(11): pp.938-945.

<sup>16</sup> According to Kaesong Industrial Zone Act, Tax Regulations for Kaesong Industrial Zone, Adopted by Decision No. 1 of the Presidium of the Supreme People's Assembly, Chapter II, Article 19 (Tax Rates of Enterprise Income Tax) the income tax rate of the companies in KIC will be 14% of the net profit whereas companies engaging in construction, light industry, and technology will be 10%.

<sup>17</sup> Kim, Byoung Youn. 2015. "Kaesŏnggongdanŭi Kyŏngjejŏk Hyogwa" [The Economic Effects of KIC]. In *Kaesŏnggongdan: Kongganp'yŏnghwaŭi Kihoeckwa Hanbandohyŏng Tongilp'ŭrojekt'ŭ* [KIC: Planning of Peaceful Space and Korean Peninsula Unification Project]. 181-198. Seoul National University: Institute for Peace and Unification Studies: pp. 183.

<sup>18</sup> The wages for North Korean workers in Kaesong was \$137.9, a Chinese worker working in Dandong, China was \$400, which included the insurance fee, and a North Korean working in China was \$304 which included visa fee, room and board. Even the wages in Vietnam and Myanmar were higher than in Kaesong as it ranged from \$238 to \$285. The wages were estimated in 2012 by Kim, Byoung Youn and Jung, Seungho in 2014. Source from footnote 18.

comparative advantage in terms of its labor costs.

Some argue the downsides of the North Korean labor market that it lacks labor elasticity since the workers are indirectly recruited through employment agencies making it difficult to apply the incentives. On the contrary, such inelasticity is considered as an advantage as this brings low turnover rate of the employees.<sup>19</sup> Therefore, one can conclude that labor is the biggest comparative advantages for North Korea in general. It is not only the system of wage, working hours, and the income tax but also the overall quality and quantity of North's labor force which makes Kaesong more competitive to any other countries.<sup>20</sup> In addition, according to the Ministry of Unification, in 2002 the North Korea's economic activity participation ratio was 69.7% while South Korea's was 64.3%.<sup>21</sup> With only a limited of factories in North Korea, it seems there is an excessive employment or unnecessary labor. Applying this to KIC, it can be concluded that there is a secure and adequate supply of North Korean labor.<sup>22</sup> Compared to China and Vietnam, another benefit for Kaesong which scholars argue is that the people share the same language which makes it easier for the South Korean companies to communicate with their North Korean workers thereby enhancing the overall efficiency.

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<sup>19</sup> Lee, H. 2011. "Issues and Challenges: Kaesong Industrial Complex, has more competitiveness than China and Vietnam." *Hyundai Research Institute*: pp. 11-16.

<sup>20</sup> Dong, Yong Sueng. 2005. *North Korea: 2005 and Beyond*. The Walter H. Shorenstein Asia-Pacific Research Center. Stanford, CA

<sup>21</sup> The total population of North Korea was 22,369 thousand, population over 15 years of age was 16,925 thousand (A). The economically active population was 11,797 thousand (B) making the participation ratio (B/A) 69.7 percent.

<sup>22</sup> Dong, Yong Sueng. 2005.



Other than labor incentives, there are other benefits such as the land prices considering KIC is more inexpensive compared to China and South Korea.<sup>23</sup> Moreover, the location of Kaesong brings great advantages due to its proximity and transportation costs as it will reduce the distribution timing and costs for the South Korean companies.<sup>24</sup> For such feasible reasons, the South Korean government pushed to open and invest in Kaesong so that it could bring in benefits to the peninsula; and with such comparative advantage in labor, costs and location, KIC indeed generated economic gains to both Koreas.

## **1-2. Literature on Enhancing the Capabilities of KIC**

After KIC has been in full operation, there have been numerous studies in order to advance and expand the globalization process of the complex. Globalization studies have been focused on the ways to increase the competitiveness of the products manufactured in Kaesong so that they can increase their exports to various countries. The main concern here for the KIC would be the issue of country of origin. Cho et al (2005) looks into the limitations to the country of origin in Kaesong and analyzes the export conditions by country and by product. The purpose of their study is to expand the export market for KIC products.<sup>25</sup> Cho

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<sup>23</sup> The land price per pyong (won) is as follows: Kaesong 149,000; China 480,000; South Korea 407,550. This data is from Korea Trade-Investment Promotion Agency (KOTRA), Database, Feb., 2006. The Chinese data are based on the Qingdao Economic and Technical Development Zone.

<sup>24</sup> Lee, H. 2011.

<sup>25</sup> Cho, Myungchul, et al. 2005. "Kaesŏnggongdan Chinch'ulgiŏp Saengsanjep'umŭi Haeoesuch'ul Kanŭngsŏng Mit Hwaktæbangan. Yŏn'gubogosŏ." [The Possibility of the

(2013) moreover argues for a customized financial aid package for the stability of the South Korean company's management system so that the companies can contribute to the globalization of KIC. He focuses on financial support of the companies.<sup>26</sup> Lee, on the other hand, provides a step-by-step strategy of deepening and expanding the KIC based on the performance assessment.<sup>27</sup>

Other than the issue of globalizing the zone, in order to enhance the capabilities of KIC, other groups of scholars have studied the improvement of the infrastructure in Kaesong. One of the important issues attends to the so-called "three connections" problem. The subject includes the problems of communication, passage way, and clearance. Seo, mainly addresses the passage way and transportation issue of the KIC. He outlays a competent role of the Trans-Korean Railway and the Trans-Siberian Railway whereas, at the same time underlines that it is crucial to resolve the logistic systems.<sup>28</sup> The communication system also is critical in the development of the KIC and Hong (2006) elaborates the supply status

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Productions from KIC Entering Firms to Export and Measures to Expand]. *Korea Institute for International Economic Policy Research Paper* 05-19.

<sup>26</sup> Cho, Bong Hyun. 2013. "Kaesönggongdan Kukchehwawa Ipchugiöp Kümyungjiwön Pangan." [Globalization of KIC and Financial Supporting Measures for Residential Corporates]. *Korea Small Business Policy Paper*, 1-3. Korea Small Business Institute.

<sup>27</sup> Lee, Sukgi, et al. 2013. "Nambuk Hyömnöyöchigu Shimhwa, Hwakchang, Palchön Chöllyak." [Enhancing, Expanding, Developing Strategies for North and South Cooperation Zone]. *ROK Ministry of Unification Service Reports*.

<sup>28</sup> Seo, Mun Sung. 2005. "Kaesönggongdan Hwalsöngghwarül Wihan Nambungmullyuüi Hyoyulchök Unyöngbangane Kwanhan Yön'gu." [A Study on Efficient Logistic Management Plan of North and South Distribution to Enhance KIC]. *The Asian Journal of Shipping and Logistics* 44 (0): pp. 17-40.

and the network system.<sup>29</sup> Hong (2014), moreover, discuss the recent “three connection” problems and how Kaesong has shown its improvement such as installing the Radio-frequency identification (RFID) system for a more accessible entry.<sup>30</sup>

Previous studies regarding the enhancement of the KIC capabilities are critical in that it assists in enhancing the productivity and moreover the quality of the products manufactured in KIC. This will further increase production levels and sales and eventually contribute to higher export rates in the near future and benefit South Korean companies. It will also benefit the North with increasing exports and better infrastructures.

### **1-3. Literature on Benefits of KIC to South Korea**

Most of the current literature on KIC mainly focuses on how much the complex delivers economic benefits to South Korea and its importance to the inter-Korean relations. According to the Korea Industrial Complex Corporation, from 2005 to 2010, KIC contributed in bringing 4 billion dollars’ worth of production inducement effect to the South Korean economy.<sup>31</sup> The Bank of Korea further

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<sup>29</sup> Hong, Hyunki. 2006. “Kaesönggongöpchigu T’ongshin Konggüpy Hyönhwang.” [The Status of Communication Distribution at KIC]. *Korea Information Society Development Institute*. 2006-4-1.

<sup>30</sup> Hong, Yangho. 2014. “Kaesönggongdanüi Hyönhwanggwä Hyanghu Palchön Panghyang.” [The Current Status of KIC and Development Measures]. *T’ongilgyöngje* 2014. No. 1

<sup>31</sup> Korea Industrial Complex Corporation. 2010. “Kaesönggongdan Kiöbüi Kungnaesanöpy P’agüpyogwa Mit Nambuk Sanöpan Shinöji Hwakh’ung Pangan.” [KIC Impact to Domestic Industries and Measures to Expand North-South Industrial Synergy]. *Korea Industrial Complex*

analyzes the economic benefits by using the industry association model. This research looks into the direct effects of production levels and employment rates. Moreover, it provides the data on which industries will benefit the most in KIC.<sup>32</sup> Cho, et al focuses on the potential for export and its expansion plans for the products manufactured in KIC.<sup>33</sup> Lee also argues the economic benefits of KIC to South Korea by evaluating the macro-economic effects. By discussing the political risks in North Korea, the author emphasizes the importance of cooperation to generate and prolong more benefits.<sup>34</sup>

KIC was further used as a tool to enhance both political and economic relationships between the two Koreas. Kim first looks how Kaesong influenced the overall inter-Korean relations by examining the economic reforms in North Korea and the economic implications of the complex.<sup>35</sup> Jeon argues for KIC to be a newly developed inter-Korean cooperation model and provides the expected political and economic outcomes.<sup>36</sup> Um analyzes the United States' and South

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*Corporation Publications.*

<sup>32</sup> Bank of Korea. 2014. "Kaesŏnggongdan Chosŏngŭi Kyŏngjejŏk Hyogwa Punsŏk." [Establishment of KIC and the Analysis of its Economic Effects]. *Monetary and Economic Studies* No. 183.

<sup>33</sup> Cho, Myungchul, et al. 2005

<sup>34</sup> Lee, Younghoon. 2006. "Nambukkyŏnggyŏbŭi P'yŏngga: Kyŏlchŏngyoin'gwa Nambuk'an Kyŏngjee Mich'in Yŏnggyangŭl Chungshimŭro." [North and South Cooperation Evaluation: Decisive Factors and Effects on North and South Korean Economy]. *The Korean Association of North Korean Studies*. Vol. 10, No. 2.

<sup>35</sup> Kim, Youn-Suk. 2005. "The Gaesong Industrial Park and the Future of Inter-Korean Relations." *International Journal of Korean Studies*. Fall/Winter 2005. Vol. IX, No. 2.

<sup>36</sup> Jeon, Bong-Geun. 2006. "The Gaesong industrial complex project the main visor and

Korea's North Korean policies by looking into Kaesong so that it can expand inter-Korean economic cooperation.<sup>37</sup> Hong further provides both quantitative and qualitative evidence for the benefits of KIC to both Koreas and moreover argues to use the KIC as a successful cooperation model so that the two countries can build up mutual trust and for South Korea to lead the way to a peaceful unification process.<sup>38</sup>

#### **1-4. Limitations**

The argument which supports the labor competitiveness of Kaesong is well-established in economic terms. The wage and the tax rate of North Korean workers estimated by scholars and it having comparative advantage than other SEZs in different countries are irrefutable. However, this argument undermines the country risks which Kaesong has for the South Korean companies. The biggest security risk would be the nuclear crisis and the potential sanctions against North Korea.<sup>39</sup> This security vulnerability puts the South Korean companies in great disadvantage as it might restrict the production and the sales of the manufactured

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responses.” *Analysis of Major International Issues*.

<sup>37</sup> Um, Tae-Yun. 2007. *Research on Change in South Korea and America's North Korean Policy and development of Inter-Korean Economic Cooperation Plan*. Hankuk University of Foreign Studies.

<sup>38</sup> Hong, Soonjik. 2014. “Kaesŏnggongdan Saŏp 10Nyŏn P'yŏnggawa Palchŏn Pangan.” [Evaluation of 10 Years of KIC and Development Plans]. *T'ongilgyŏngje* 2014. Vol. 2.

<sup>39</sup> Lim, Sung-Hoon. 2011. “Risks in the North Korean Special Economic Zone: Context, Identification, and Assessment,” *Emerging Markets Finance and Trade*, 47:1: pp. 50-66.

products in KIC. Moreover, the political risk of the North Korean government maintaining rational land rent and labor costs endangers the interests of the companies. This fear even came into reality when the regime frequently requested for wage increases. Of course, the South Korean government provided political risk insurances to the companies which cover the financial losses of their investments. Likewise, the arguments disregards of the employment system in North Korea. First of all, the government controls the labor supply and distribution. Therefore, there are concerns whether sufficient labor would be provided as Kaesong continues to develop. Even though the 2002 economic reform readjusted the prices and wages to increase the economic management, the labor market still does not exist in the North Korean system.

As previously discussed, the issue of country of origin will also benefit the North as it will assist in their export growth. However, it is not just the international export restrictions of KIC products and the “three communication” problems which inhibit the capabilities to develop. The quality of the products, the capacity of the overall complex, and more importantly the infrastructure risk are also critical in enhancing the capability of KIC. Although access to Kaesong has significantly improved with roads and rail connections, the complex still lacks major infrastructure development such as electricity and water supplies.<sup>40</sup> The underdeveloped infrastructure will impoverish the overall environment of the complex and therefore curtail the quality of the products manufactured in KIC.

Most importantly, great amount literature focuses on the benefits of KIC

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<sup>40</sup> Ibid.

from the South Korea's perspective. They are concentrated on underlining the profits which the South Korean companies would attain and how much it would affect the South Korean economy. The studies about the economic benefits to the North are very limited in that they are strictly focused on direct effects, mainly figures of production and employment. However, there are various indicators to show the direct effects of the economic zones to the North Korean economy. Moreover, there are indirect effects that would provide long-term benefits to the economic development of North Korea. Therefore, this research will provide in detail of the various indicators of direct benefits as well as analyzing the indirect effects of KIC to the North Korean economy.

### **3. Research Question**

This paper will research on why North Korea fails to completely shut down the KIC by analyzing the suspension periods in 2009 and 2013. First hypothesis of this research question is that North Korea uses its shutdown policies as political leverage since KIC does not bring enough economic significance to the North Korean economy. Second, the North Korean regime does not continue to shut down the complex due to the economic benefits which brings to North Korea. This study will nullify the first hypothesis in that KIC does deliver economic significance and confirm the second hypothesis that the benefits moved the North to reopen by looking into the economic direct and indirect benefits of the KIC to

North Korea.

## **II. Analytical Framework**

### **1. Background of SEZs: Definition and Theories**

Before discussing the role of SEZs in North Korea, this section will provide the definition and theoretical debates of SEZs. According to the World Bank Foreign Investment Advisory Service (FIAS), SEZs are defined to be “1) geographically delimited area 2) administered by a single body 3) offering certain incentives to business which physically are located within in the zone; and 4) has a separate customs area.” The incentives generally include duty-free importing and customs procedures.<sup>41</sup>

In general, it is considered that many developing countries utilize SEZs to attract foreign capital, enhance more employment opportunities, and eventually develop the region. Through the SEZs, the country will be able to attract FDI whereas the zones deliver more liberal policies than other parts of the country.

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<sup>41</sup> The World Bank Group. 2008. “Special Economic Zones: Performance, Lessons Learned, and Implications for Zone Development.” *FIAS The Multi-Donor Investment Climate Advisory Service of the World Bank Group*. April: pp 2.



Firms will be able to form clusters and bring economies of scale in land development and public services.<sup>42</sup> Moreover, the SEZs will create employment opportunities and increase the flow of technology and know-how that may spread throughout other regions.<sup>43</sup>

There are two major theories which further elaborate the role of SEZs in developing countries. The initial theoretical analogy is from the neoclassical economic theory which is considered to take an orthodox approach. This view looks into the direct effects of how the resources are allocated efficiently. Rather than focusing on possible dynamic effects, it strictly relies on static economic effects. According to this theory, SEZs would either complement or denounce a country's comparative advantage. Scholars such as Hamada provide a more pessimistic view concluding that SEZs will bring less contribution to the economic situation. The zones could bring tax revenue and infrastructure advancement but at the same time has the risk of dampening the overall host country's economic development.<sup>44</sup> In continuation, neo-classical studies further limited the SEZs only

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<sup>42</sup> Harrison, B. 1992. "Industrial Districts: Old Wine in New Bottles?" *Regional Studies*, 26 (5): 469-483: pp 27; Porter, M. E. 1998. "Clusters and the New Economics of Competition." *Harvard Business Review*; Porter, M. E. 2000. "Location, Competition, and Economic Development: Local Clusters in a Global Economy." *Economic Development Quarterly*, 14(1): pp. 15-34; Zeng, D.Z. 2010. "Building Engines for Economic Growth and Competitiveness in China: Experience with Special Economic Zones and Industrial Clusters." *The World Bank Group*. Washington DC.

<sup>43</sup> Yeung, Y.-M., Lee, J. and Kee, G. 2009. "China's special economic zones at 30," *Eurasian Geo-graphy and Economics*, 50(2), pp. 222-240.; The World Bank Group. 2008.: pp 32

<sup>44</sup> Hamada, K. 1974. "An Economic Analysis of the Duty-Free Zone." *Journal of International Economics*, 4 (3): pp. 225-41. He argues that the reduction of tariff will reduce the price of the goods only in that region. However, this will lower the FDI throughout the entire country and eventually hamper the overall economic development of the host country.

to be the “second best” strategy to bring transition towards liberalization.<sup>45</sup> The scholars argue for nation-wide reforms to be more effective rather than zone specific developments as they fail to extend and contribute its benefits outside of the zones.<sup>46</sup>

However, the neoclassical argument has become less prominent as more countries, mainly China, have proven to share successful economic development experiences with their SEZ strategies. The zones have verified that they can be used as a catalytic instrument to further develop the country’s economic development. SEZs not only facilitate export-oriented trade policies but also diversify the industries and created externalities for more advancement. The heterodox approach, based on the endogenous growth theory, argues that SEZs have spillover effects and therefore enhance broader growth. This approach underlines the indirect effects such as the development of the human capital, better infrastructure, and technology and skill transfers.<sup>47</sup>

Moreover, SEZs, in a controlled and socialist economy, can serve as a testing ground for open and market-based economic policies. It will bring opportunities to implement foreign investment and technology. The tax incentives and the foreign currency benefits will increase the economic activity throughout the

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<sup>45</sup> Madani, D. 1999. “A Review of the Role and Impact of Export Processing Zones.” *World Bank Policy Research Working Paper* No. 2238. Washington, DC: World Bank.

<sup>46</sup> Kaplinsky, R. 1993. “Export Processing Zones in the Dominican Republic: Transforming Manufactures into Commodities.” *World Development* 21 (11): pp. 1851

<sup>47</sup> Aggarwal, A. 2010. “Economic Impacts of SEZs: Theoretical Approaches and Analysis of Newly Notified SEZs in India.” *Munich Personal RePec Archive Paper* No. 20902.

zones.<sup>48</sup> Again, such success of SEZs can mostly be seen in China. Shenzhen, Zhuhai, Shanton and Xiamen economic zones were experimented to carry out sensitive policy experiments such as liberal foreign investment and import policies.<sup>49</sup>

Yet, there are some circumstances which determine the success and failure of the SEZs. Quality of the infrastructure, the location, and appropriate policy coordination are one of the critical factors of developing the SEZs.<sup>50</sup> According to Yuan and Eden, location near national borders and skilled labor are critical points for a successful zone.<sup>51</sup> For North Korea, Kaesong is a very strategic area to develop a successful SEZ. Moreover, the zone targeted “the right industry.”<sup>52</sup> Rather than targeting high technology production, Kaesong focused mainly labor intensive textile firms. Likewise, the North has been focusing its policy more on economic development making KIC more preferable within its policy coordination.

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<sup>48</sup> Li, K., J. Whitwell and S. Yao. 2005: A Growth Model for China’s Special Economic Zone, *Pacific Economic Review* 10 (4): pp. 439–449.

<sup>49</sup> Wang, Jin. 2009. “The Economic Impact of Special Economic Zones: Evidence from Chinese Municipalities.” *Job Market Paper*. London School of Economics.

<sup>50</sup> Farole, T. and G. Akinci. 2011. “Special Economic Zones: Progress, Emerging Challenges, and Future Directions.” *Washington, DC: The World Bank.*; Pradeep, N. and P. Pradeep. 2008. “SEZs as Growth Engines – India Vs China.” *FIAS*: pp 5

<sup>51</sup> Yuan, J. and L. Eden. 1992. ‘Export Processing Zones in Asia: A Comparative Study’, *Asian Survey*, 32(11): pp. 1026–1045.

<sup>52</sup> Farole and Akinci, 2011: pp 41

## **2. Research Design**

This research will analyze the economic benefits of KIC to North Korea by estimating the direct and indirect benefits from the economic zones. The World Bank FIAS provides each indicator to measure the direct (static) and dynamic (dynamic) benefits.<sup>53</sup> The specific indicators of direct and indirect benefits are as categorized in Table 2. The next section will provide the definitions of each indicator which the World Bank provides and elaborate each indicator so that it fits with the KIC and North Korean system. However, the indicator direct employment creations cannot be analyzed as it does not apply to the centralized North Korean system. The explanation for not adopting this indicator will also be described in more detail.

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<sup>53</sup> This research will refer to the terms direct and indirect effects instead of static and dynamic effects.

**Table 2: Indicators for Zone Economic Benefits**

<b>Indicators</b>	<b>Direct</b>	<b>Indirect</b>
Foreign Exchange Earnings	■	
Foreign Direct Investment	■	
Government Revenue	■	
Export Growth and Export Diversification	■	
Direct Employment Creations	■	
Skills Upgrading		■
Technology and Knowledge Transfer		■
Demonstration Effect		■
Female Employment		■
Regional Development		■
Indirect Employment Creation		■

Source: The World Bank FIAS

This research will first discuss the direct indicators for each of the two periods, the shutdowns in 2009 and 2013. The indirect indicators, on the other hand, will be analyzed within the overall period due to their long-term and continuous aspects of economic development. The two case studies of the direct effects will then be compared to evaluate which indicators were more influential to the reopening of each period. Lastly, the implications of the indirect effects will discuss the significance of the KIC to the long-term economic growth in North Korea and moreover assess which indirect effect was the most influential for the North Korea's decision to continue the KIC.

### **3. Interpretation of Each Indicator**

#### **Foreign Exchange Earnings**

According to the World Bank, the foreign exchange earnings are one of the main benefits to the development of the SEZ.<sup>54</sup> The earnings are determined by estimating the net exports. Since the entire productions are exported back to South Korea, this indicator will focus mainly on the overall production level of KIC.

#### **Foreign Direct Investment (FDI)**

The International Monetary Fund defines foreign direct investment (hereinafter, FDI) as “an investment made to acquire lasting or long-term interest in enterprises operating outside of the economy of the investor.”<sup>55</sup> Most foreign direct investments are focused on portfolio flows or investing in equities. However, in general, it is difficult for a foreign company to make a portfolio investment in North Korea. Other than equity investment, FDI also includes investments in building new buildings and infrastructures. Therefore, given the nature of KIC as a newly developed industrial complex, the FDI in Kaesong will focus on investments in new infrastructure mainly by the South Korean government and companies in KIC.

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<sup>54</sup> The World Bank Group. 2008: pp 36.

<sup>55</sup> Galeza, Tadeusz, and James Chan. 2015. “What Is Direct Investment?.” *IMF. Finance & Development*. September.

## Government Revenue

Zone development can bring revenues to the government in diverse ways.<sup>56</sup> Out of the six different types of government revenue,<sup>57</sup> which the World Bank describes, the North Korean government receives its revenue mainly from rental fees and tax revenues (See Figure 1). One thing unique about the KIC is that the labor cost is included as a form for government revenue due to North Korea's unique system of collecting wages from the North Korean labor working in Kaesong. The wages are paid in dollars directly to the Central Special Direct General Bureau. Then the Bureau distributes a portion of the wages back to the North Korean workers after collecting social insurance and other fees. Yet, according to Article 34 of the Labor Law of the Kaesong Industrial Complex, wages must be given directly to the workers in cash. The North Korean authorities, on the contrary, have claimed that this is difficult due to the lack of foreign exchange centers and is currently an issue in KIC.<sup>58</sup> From the salary, the government deducts 15% for social insurance and 15~30% for socio-cultural policy

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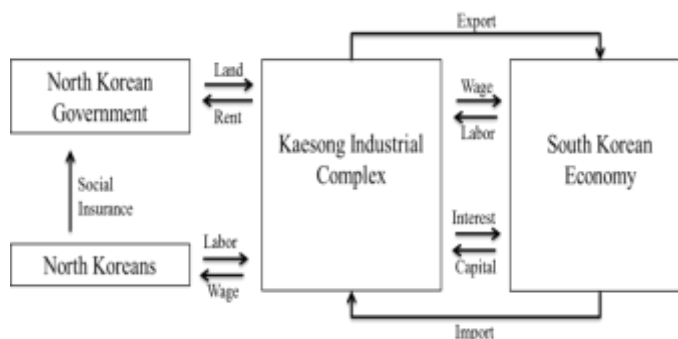
<sup>56</sup> The World Bank provides 6 different ways a government can receive revenue from zone development. 1) corporate income tax 2) personal income tax on direct and indirect employment 3) permit fees and service charges 4) rental or sales fees 5) import duties and taxes on zone products sold to the domestic customs territory 6) concession fees for other facilities linked to zone development

<sup>57</sup> The World Bank Group, 2008.

<sup>58</sup> ROK Ministry of Unification. 2006. "Gaesong Industrial Complex: Frequently Asked Questions" May 21. <https://www.kidmac.com/kor/bbs/list/B0000027.do?menuNo=100175>

fee.<sup>59</sup> Therefore, this research will focus on three types of government revenue: rent, tax, and wage.

**Figure 1: The flow of Management, Production, and Income of KIC**



Source: Lee, Y. 2006.

## Export Growth and Export Diversification

By developing the SEZs, one country can both accelerate its export growth and diversify its exported products as most developing countries focus on exporting primary products which only requires low skill and technology. As mentioned above, all products manufactured in KIC are exported to South Korea. Therefore this section will first focus on the portion of KIC trade to the inter-Korean trade. Furthermore, the products sent to South Korea are exported again to 3<sup>rd</sup> countries.

<sup>59</sup> The socio-cultural policy fee is for the rental of state-owned housing, education, medical services, social insurance, and is told that the money is given to the Kaesong City People's Committee.



The analysis on the export to 3<sup>rd</sup> countries will show how the products have diversified in KIC.

## **Direct Employment Creations**

North Korea, as a socialist country, in theory guarantees employment for its people. Therefore, Kaesong also had to be under this socialist planned economy system and had to establish employment agencies. The South Korean companies cannot hire workers but have to seek out to the employment agencies to indirectly hire their employees. These agencies must consult with the administrations so that they can place the North Koreans from other regions into the jobs in KIC.<sup>60</sup> Therefore, this research will not look into direct employment creations in KIC since creating direct employment is not a critical factor for economic development in a socialist planned system.

## **Skills Upgrading**

One of the greatest impacts that SEZs have on the hosting country is that they enhance the skills of the workforce. With foreign companies organized in the zones, they bring in new technology and information into the developing countries. Before analyzing the technology and knowledge spillover effects, this part will first measure the skills development by measuring the enhancement of the productivity,

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<sup>60</sup> Lim, Eul-chul. 2013.

through the calculation of the output per person of the North Korean workers throughout the overall years of KIC operation.

## **Technology and Knowledge Transfer**

There have been critics that the skills and the production process in the SEZs remain static with no further development. It is considered that most companies in the zones tend to bring in only low-quality investment and therefore produce products which only require low-skill labor.<sup>61</sup> Moreover, there is lack of data to measure and analyze technology transfer in KIC. However, being North Korea unique of being the hermit kingdom detached from the developed world, the KIC is a platform of bringing new machines and technology to the desolate North Korean people. Therefore both technology and knowledge transfer will be critical in enhancing the productivity of the North Koreans. Knowledge transfer, compared to technology spillover, can be more visible through various formal trainings and programs which the South Korean companies provide in KIC.

## **Demonstration Effect**

Demonstration effect arises from the application of the so-called “best practices” of economic growth for the developing country.<sup>62</sup> China provides an

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<sup>61</sup> The World Bank Group, 2008.

<sup>62</sup> Ibid.

excellent example of this effect when Deng Xiaoping introduced special economic zones during the 1970s. The Chinese SEZs served as an outlet for the China's domestic economy to connect with the international realm. Moreover, it was the base to experiment with market-oriented policies and to bring spill-over effects to the surrounding regions.<sup>63</sup>

North Korea, over the past years, has been looking up to China's economic development. Therefore, rather than a *Songun* (military first) politics, the North has been re-emphasizing the *Byungjin* (policy of pursuing parallel goals of economic development and military might). Since its new policy, the regime has been practicing a series of economic policy experiments, mainly focusing on the expansion of the SEZs. The zones would be able to provide a limited space to promote exports, create employment, and have spillover effects to a restricted and closed economy. They would moreover become a tool to experiment and exercise modernization to the host country so that they can integrate more development policies to their domestic economy.<sup>64</sup> KIC is considered to be the only successful SEZ in North Korea. With the experiences of both direct and indirect economic effects from KIC, Kaesong would provide a demonstration effect to other newly economic development zones.

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<sup>63</sup> See Ge, Wei. 1999. "Special Economic Zones and the Opening of the Chinese Economy: Some Lessons for Economic Liberalization. *World Development*, Vol. 27, No. 7: pp. 1267-1285.

<sup>64</sup> Ibid.

## **Female Employment**

In many developing countries, the labor markets have remained to be divided by restricting the female workforce. According to IMF, women's participation in the labor market is also crucial for not only the growth but also the stability of one's economy. Especially where a country suffers from shrinking workforce, higher female participation in the workforce can assist the economic growth.<sup>65</sup> In SEZs worldwide the female workforce participation rate is around 60-70%.<sup>66</sup> However, this high percentage decreases as the activity develops more into intricate assembly operations. This research will also look into the female participation rate in KIC and its trend as the KIC further develops.

## **Regional Development**

The SEZs were usually developed in remote areas or near the transport hubs where the government would tightly restrict incentives and the privileges. However, due to government and foreign investment, the zones would exclusively develop the region. For KIC, the location was selected not only for historical reasons but also for the efficiency of transit. This section will focus on the city of Kaesong and how the development of the industrial complex contributed to the significance to the region.

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<sup>65</sup> Elborgh-Woytek, Katrin, et al. 2013. "Women, work and the economy: macroeconomic gains from gender equity." *International Monetary Fund, Strategy, Policy, and Review Department and Fiscal Affairs Department*. September.

<sup>66</sup> The World Bank Group, 2008: pp 25

## **Indirect Employment Creation**

For special economic zones, the impact of indirect employment creation is quite more influential than the direct employment effects.<sup>67</sup> If direct employment refers to employment that is physically related to the direct production, indirect employment includes the ones who support the process such as those who participate in quality control. It is challenging to estimate the exact figures for indirect employment in KIC. However, this research will look into the types of new indirect employment opportunities which were created in KIC by examining through surveys, interviews, and testimonies,

## **III. Direct Effects**

### **1. Case Study: Shutdown of 2009<sup>68</sup>**

KIC was moving in a positive pathway as it reached its first 500 million USD of total output in 2008. However, in early January 2009, North Korea demanded the South Korean companies in KIC to raise their transportation

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<sup>67</sup> Ibid.

<sup>68</sup> See Appendix 1 for details of the overall timeline of important events.

allowance for their North Korean workers from \$5 to \$10. Such request was reissued in February when the officials requested an increase of the wage from \$57.50 to \$300. If this request was to be declined, KIC would be suspended. The tension became more atrocious in March 9, when North Korea cut off the military hotline with the South and blocked down all traffic to the complex without prior notification. This was due to the annual Key Resolve joint exercise of the South Korean and U.S. forces. Even though the military communication was resumed in March 21, the KIC border was shut down three times. The tension further escalated as North Korea arbitrarily detained a Hyundai-Asan employee for several days for being accused of criticizing the North Korea's regime and encouraging its workers to defect to the South. North Korea's abrupt actions were not only because of its provocative stance but also due to the hardline measures from the international community, especially from the U.S. and South Korea. Pyongyang need to use Kaesong, which was the only and most effective connection point to raise tensions on the peninsula and put more pressure to its so called partner country.

Finally, the two Koreas met for a brief meeting in April 21. Here, the North threatened for higher wages and rents from the South Korean companies. Without reaching an agreement, in the following month, the North unilaterally declared to nullify the existing regulations and contracts and that the South should completely depart from the complex. The ROK government was furious with the North's unreasonable and unilateral actions. Several politicians urged the government to fully withdraw from KIC for the security of its own people. From June to July, three rounds of meetings were held over the KIC but there seemed to

be no clear solution to this turmoil.<sup>69</sup>

However, the contention finally began to ease in August when the North suddenly persisted to turn away from its hard-line policy, open up all traffic, and resume its service. In addition, the North released the Hyundai-Asan employee as well as accepted to only a 5 percent wage increase rather than their initial demand of \$300.<sup>70</sup>

### **1-1. Foreign Exchange Earnings**

The first direct economic incentive which the North received would be its foreign exchange earnings from the productions of the KIC. From its opening to throughout the first shutdown, the total production reached \$728,590,000.<sup>71</sup> As can be seen from Table 3, compared to the production level in 2005 which was \$14,910,000 the overall level increased 17.2 times more by 2009 which was \$256,480,000. Of course the economic earnings did not increase as much in 2009 due to the shutdown periods in 2009, as the value of the total production level in 2009 was about the same as in the previous year. However, the production level of the year 2010 grew by 26% up to its level during the first shutdown in 2009.

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<sup>69</sup> Yang, Moon-soo. 2013. "Kaesong Industrial Complex as Key to Peace on Korean Peninsula," *National Strategy 19-2*, Sejong Institute.

<sup>70</sup> Yun, Sarah. 2009.

<sup>71</sup> The amount is estimated from January, 2005 to October 2009. Source by the ROK Ministry of Unification.

**Table 3: Production Level in KIC (2005-2010)**

	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
<b>Production Level (\$10,000)</b>	1,491	7,373	18,478	25,142	25,648	32,332

Source: ROK Ministry of Unification

Table 4 shows the monthly comparison of the production levels before and after the first shutdown in 2009. In comparison to the previous year in March, the production level during the beginning of the conflict was decreased by 21 percent. However, after the compromise, by October, the production level grew to exceed the previous year's level by 16.9 percent and eventually reached the highest level compared to previous months.

**Table 4: Monthly Comparison of Production Level (2008 and 2009)**

	<b>January</b>	<b>February</b>	<b>March</b>	<b>April</b>	<b>May</b>
<b>2008 (\$10,000)</b>	1,887	1,768	2,422	1,906	2,058
<b>2009 (\$10,000)</b>	1,803	1,845	1,922	1,884	1,782
<b>Comparison</b>	+4%	+4%	-21%	-1%	-13%
	<b>June</b>	<b>July</b>	<b>August</b>	<b>September</b>	<b>October</b>
<b>2008 (\$10,000)</b>	1,846	2,031	2,318	2,412	2,310
<b>2009 (\$10,000)</b>	1,873	2,059	2,096	2,409	2,700
<b>Comparison</b>	+1.5%	+1%	-9.6%	+0.1%	+16.9%

Source: ROK Ministry of Unification



As can be seen from above, the production level would have increased more even on a monthly basis if there was no shutdown between the months March and August. Regardless of the brief shutdown in 2009, the North continues to receive the economic benefits from the increasing production levels in KIC. Moreover, the production levels retrieved to its original levels in a short period of time after the first shutdown and reopening. With the production increments, the value-added from the zone channeled through FDI development and revenues collected directly from the government would also increase as well.

## **1-2. Foreign Direct Investment**

Before KIC's grand opening, many infrastructures were constructed to connect and develop the zone. The railway connecting the North and South regions was finally built in 2003. For the roads, the 5 kilometer bridge Tongildaegyo was completed for more efficient transport between the two regions. At the same time, one of the main investments in KIC was made by the South Korean companies. Based on 2007, The 36 companies invested 8.9 billion won in total.<sup>72</sup> Construction in KIC not only included the factories of the South Korean companies but also the supporting infrastructures built by the South Korean government. During its initial development period, they constructed basic infrastructure such as a water supply plant, a wastewater treatment plant, and an electricity substation. The water supply plant, which was completed in 2007, sent about 60,000 ton per day to Kaesong. In

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<sup>72</sup> This amount excludes 16 of apartment type factories. The average amount invested for one company would be around 52 hundred million Korean won. Source by ROK Ministry of Unification.

addition, the Korean Electric Power Corporation connected the North and South in 2007 with a 100,000 kilowatt power-transmission line. Furthermore, the South Korean government also developed recreational and leisure parks for the workers to utilize within the zone. To a region where it was severely underdeveloped, the newly assembled infrastructure and foundations have brought greater impact and influence to its people.

Other than factories and other facilities, a South Korea civic group called the Green Doctors established a general hospital in Kaesong. The Kim regime has been boasting that their public health care system provided universal health care to its entire people. However, the facilities are in dire need of great help as it greatly lacks in sanitation, medical supplies, and is fragile with infectious diseases. However, the newly opened hospital provided a completely different health care service to the North Koreans. It began by establishing a small emergency medical center at the site in 2005 and they provided free medical services to North Korea people in the complex. The final hospital was open in April, 2007 which brought both South Korean Green Doctors and 19 North's staff members to coordinate together. According to the Ministry of Unification, over 230,000 North Korean workers have been treated at this facility by both South and North Korean doctors. The hospital was divided into sections so that the patients would be treated under better sanitation conditions. As for the infectious diseases, the hospital installed thermal cameras in 2009 and increased vaccinations, and medicines to the workers to prevent the HINI flu virus.<sup>73</sup>

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<sup>73</sup> ROK Ministry of Unification.2010. "Inter-Korean Exchanges and Cooperation." *White Paper on Korean Unification 2010*.

### **1-3. Government Revenue**

#### **Rent**

The overall rent for KIC has already been paid the full amount when Hyundai-Asan and South's Korea Land Corporation made an agreement with North Korean Special Development Guidance Bureau in 2004. They signed the land lease of 3.31 million square meter of land for 16 million USD for 50 years, which Hyundai-Asan already made the full payment during the first years of KIC construction. Moreover, North Korea initially provided South Korean firms to use the land for free by setting a 10 years grace period. Therefore, until 2014, the North Korean government did not receive any additional revenue since the initial construction and only gained US \$16 million of economic value for the rent.<sup>74</sup>

#### **Tax**

Under the "Kaesong Industrial Complex Tax Regulations," KIC imposes 10% of corporate income tax on the profit of light industries and science and high-tech related firms. On the other hand, other fields would have to pay 14%. However, companies that are residing in the zone for more than 15 years will be fully exempted from the corporate income tax for the first 5 years of generating profits, which will be succeeded by a 50% income tax reduction in the following 3 years. Companies engaged in a service area operated inside the zone for more than 10 years will also be exempted from corporate income tax for the first 2 years of

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<sup>74</sup> Lim, Eul-chul. 2007.

profit generation, which will also be combined with a 50% reduction tax for the following year.<sup>75</sup>

Due to the exemption periods, since its opening in 2004 and even after its reopening of the 2009 shutdown, the North Korean government did not collect economic incentives through corporate income taxes. Rather, the North Korean government had to attain its revenue by levying through several different tax channels. Other than the corporate income tax, the North collected seven more different types of taxes from the South Korean companies.<sup>76</sup> The first tax collected by the North was from the individual income tax in 2006. Out of 600 South Koreans working in KIC, those who worked more than 183 days had to pay their individual income tax.<sup>77</sup> According to Ko, Kyongbin from the Ministry of Unification, the total individual income tax paid to the North Korea's government in 2006 would be estimated to be \$38,000.<sup>78</sup> To conclude, before and after the first shutdown in 2009, the North could not receive any great hard currency through the corporate income taxes, but only collected them through minor taxes from

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<sup>75</sup> Yoon, S. 2007.

<sup>76</sup> See Appendix 2 for more details of the different types of tax collected in KIC.

<sup>77</sup> Out of 600 South Korean workers, it was estimated that 70 workers from Hyundai-Asan and Korea Land Corporation had to pay the individual income tax. The tax rate after \$1000 is 4%, \$3000 is 7%, and \$6000 is 11%. Source by Yoo, Bongsuk. 2006. "Kaesŏnggongdanŭi Namhan'gŭlloja, Puge Nael Sodŭkse Irŏksamch'ŏnmanwŏn." [KIC South Korean Workers Pay One Hundred Million Won of Individual Income Tax to the North]. Mael Business News Korea, March 30. Accessed February 28, 2016.

<http://epaper.mk.co.kr/Viewer.aspx?exec=viewsearch&GCC=AB00699&CNo=19138524>

<sup>78</sup> NK Brief. 2012. "Companies in Kaesong Industrial Complex Receive Unannounced Tax Notices." *The Institute for Far Eastern Studies*. October, 25.

individuals.

## **Wage**

As mentioned in the previous two sections, tax rates of KIC were low and the rent was exempt for 10 years. Therefore, most of the revenue the government received was from the wages earned by North Korean KIC workers. The minimum wage in Kaesong started out with \$50 and the increase was capped at 5% per year. Workers also received overtime payment by working about six more hours per week in average. For extended working hours, workers received about \$10 per month. Moreover, companies also provide cash as an incentive to enhance their productivity.

In April 2007, the North requested to increase the raise for the North Korean workers who graduated four and two year colleges<sup>79</sup>. According to Ministry of Unification, the college graduates made up about 9.8% of North Korean workforce in KIC.<sup>80</sup> As it is shown in Table 5, North Korean workers have continuously received 5% wage increase annually since 2007. Of course, the North Korean government once argued for an immense increase to \$300 in 2009 which was one of the causes of the shutdown. Yet, they settled to their original agreement

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<sup>79</sup> North requested a 30% raise for four year college graduates and 10% for two year college graduates. Source by Lee, Jin-woo. 2007. "NK Demands Wage Hike in Kaesong." Korea Times. April 17. Accessed March 3, 2016.  
[http://www.koreatimes.co.kr/www/news/nation/2016/02/116\\_1137.html](http://www.koreatimes.co.kr/www/news/nation/2016/02/116_1137.html)

<sup>80</sup> ROK Ministry of Unification. 2007. Statistical Data from Kaesong Industrial Park. January 2007.

of 5% which increased the minimum wage to \$60.8. Therefore, from 2007 to 2010, the percentage of minimum wage increase was stable throughout the years (See Table 5). If one compares the minimum wage in KIC to the average wage of a North Korean worker this is an immense amount.<sup>81</sup> However, it is crucial to note that the North Korean government takes possession of this hard currency and redistributes only a portion of the overall wage. North Korean workers could have received a little more compared to the other workers in North Korea. Nonetheless, increasing the minimum wage for its workers was essential to attain hard currencies for the North's government.

**Table 5: Minimum Wage for North Korean Workers (2005-2010)**

	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
<b>Minimum wage (\$1)</b>	50.0	52.5	55.1	57.9	60.8	63.8

Source: Ministry of Unification

With more working hours and cash incentives, the average wage for one North Korean worker was \$68.1 a month. The total amount of the wage of the North Korean labor in KIC can be calculated by multiplying the average wage by the total number of workers. Therefore, in 2006, 11,189 (number of workers) \*

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<sup>81</sup> After the July 1st economic reform in 2002, there has been a wage increase. The officials ranged from receiving 2,400 to 4,500 North Korean won per month. The average worker would earn from 1,000 to 1,200 North Korean won. Source by, Nam, Sangwook. 2003. "A Study on the Change of Consumption and Production from the Drastic Increase of Wages and Price in North." *The Korean Journal of Unification Affairs*. 40.

\$68.1 (average monthly wage) \* 12 months = \$9,143,651 was made as the total wage from North Korean workers in KIC. In order to see how much this amount holds a share for the North Korean government, one would need to calculate the ratio to the government revenue. Yet, North Korea does not provide any data regards to government revenue. Therefore, this research will focus on the percentage of the overall wage from North Korean workers in KIC to the North Korean overall trade as it is one of the alternative sources for the North to attain hard currency. As Table 6 explains, in 2006, the amount of wage earned from KIC only contributed 0.7% to the North Korea's overall trade. Despite the fact that the KIC was still increasing its influence, the overall percentage is very insignificant to the overall hard currency earned from its trade. With this small percentage one could conclude that the KIC only brought only a limited effect on North Korea's economy. On the other hand, others can argue that this amount is still significant for the North who has only a limited source of attaining hard currency after its nuclear tests. Moreover, if the trade value estimated in Table 6 is converted into the market exchange rate, the hard currency earned from the KIC will be quite substantial.

**Table 6: Portion North Korean Wage to Trade Volume (2005-2010)**

	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
<b>Number of North Korean Workers</b>	7,621	11,189	22,538	38,931	42,561	46,284
<b>Average Monthly Wage</b>	n/a	68.1	71	74.1	80.3	93.7
<b>Overall Wage per Year from KIC</b>		9,143,651	19,202,376	34,617,445	41,011,780	52,041,730
<b>Trade Volume (KOSIS)</b>		3,000,000,000	2,940,000,000	3,820,000,000	3,410,000,000	4,170,000,000
<b>Percentage of KIC wage to Annual Trade Volume</b>		0.65	0.91	1.20	1.25	0.65

Source: ROK Ministry of Unification, Korean Statistical Information Service (KOSIS)

#### **1-4. Export Growth**

As from 2006, the North Korea began to export more to South Korea than to China. Figure 2 elaborates this trend which continued until 2009 when the North first shutdown the complex. This shows that South Korea was becoming more critical than China as the North's main trading partner.



**Figure 2: North Korea's Exports to China and South Korea (2003-2010)**



Source: Korean Statistical Information Service, KOSIS (Unit: Millions of dollars)

Within the overall trade relationship between the two Koreas, KIC trade became imperative. Table 7 shows that by 2009, trade through KIC consisted over half (55%) of the overall inter-Korean trade. The overall inter-Korean trade decreased in 2009 since North Korea brought tougher restrictions on traffic by the end of 2008 after South Korean activist civic groups sent anti-North Korea fliers by floating balloons to the North. On the other hand, trade through Kaesong slightly increased despite its shutdowns in 2009 making trade through KIC become a greater importance to the overall inter-Korean trade. After the KIC reopened and the borders were restored in August, 2009 both trades increased. Here, it is interesting to point out that the trade through KIC increased by 53.6% while the overall inter-Korean trade only increased by 12.7%. After the reopening of the

complex, by 2010, KIC trade grew significantly to cover two-thirds of the overall inter-Korean trade.

**Table 7: KIC Trade Percentage of Overall Inter-Korean Trade**

<b>Year</b>	<b>Trade through KIC</b>	<b>Overall Inter-Korean Trade</b>	<b>KIC trade percentage of overall trade</b>
<b>2004</b>	42	697	6.03%
<b>2005</b>	177	1,055	16.78%
<b>2006</b>	299	1,350	22.15%
<b>2007</b>	441	1,798	24.53%
<b>2008</b>	808	1,820	44.40%
<b>2009</b>	941	1,697	55.45%
<b>2010</b>	1,443	1,912	75.47%

Source: ROK Ministry of Unification (Unit: Millions of dollars)

All products manufactured in the KIC were sent to South Korea for sale or exported to other countries after going through customs under the South Korean trade laws. The exported countries included China, Japan, Australia, Middle East, Russia, and Europe.<sup>82</sup> As can be seen from Table 8, the total amount of export increased exponentially after the first development through 2007. However, the increase stagnated before and after the 2009 shutdown.<sup>83</sup> Nevertheless, considering

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<sup>82</sup> The export to Japan is very limited and only occurred due to the joint company Taesong Hata (Korean) with Hatasa (Japanese). Most products exported to the European countries were chemicals and mechanicals. Source by Kaesong Industrial District Mangement Committee from 2005-2007.

<sup>83</sup> The total amount of export excludes exports to South Korea. Source by ROK Ministry of

the overall circumstances of North Korea being secluded from the international community since its first nuclear test in 2006, the export through KIC emerged to be critical and even sole outlet for North Korea to export to other countries.

**Table 8: Total Amount of Exports and Export Rate of KIC (2005-2010)**

	2005	2006	2007	2008	2009	2010	Total
<b>Total Amount of Export (\$10,000)</b>	87	1,983	3,967	3,584	2,860	3,667	19,835
<b>Export Rate (%)</b>	5.84	26.90	21.47	14.26	11.15	11.34	

Source: ROK Ministry of Unification

Among the 26% of export rate in 2006, it is shown that most exports were focused on chemical and mechanical. One thing interesting here is that Kaesong employs heavily on the textile industry. Since its initial stage, Kaesong concentrated on selecting textile related companies as that industry accounted for almost 50% of the entire complex. This is because textile products have less restrictions regards to country of origin. However, in reality the exported products from Kaesong were focused mainly from the chemical, metal, mechanical and electronic industries. For North Korea's general exports, the industries which KIC exported were not as critical compared to its agriculture and forestry marine products or textile related goods. The export rate for electronic goods decreased in half since 2002. Yet the export rate for chemical, metal, mechanical and electronic products began to increase ever since the development of KIC which shows that

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Unification.

exports from KIC influenced in developing these sectors in North Korea's exports and moreover helped diversify the overall products manufactured in Kaesong.<sup>84</sup>

One of the main reasons for the low export rates would be the problem of country of origin which brought high barriers to the products made from Kaesong. Depending on whether the country acknowledges the products from the complex to be made from South Korea or North Korea, the customs tariff rate would vary. For example, customs tariff rate was very high making it difficult to export the KIC products to Western countries. United States, for example, imposed 65% custom tariff to North Korea, while it was only 7.6% to other countries. Such barrier makes products manufactured in North Korea to be disfavored from other countries.<sup>85</sup>

However, many new Free Trade Agreements (FTAs) have resolved this issue. As the exports rate of KIC was decreasing, South Korea's FTAs with other countries were the window for North Korea to export its products manufactured in Kaesong to other countries. As mentioned in the literature review, the issue of country of origin was a great obstacle and the South Korean government was trying to get the KIC products to be considered as same to those produced in South Korea. In this research, most of the countries which concluded FTAs with South Korea have treated the products manufactured in Kaesong as South Korean products. Such measures have secured a market for Kaesong North Korea to export its product to the outside world.

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<sup>84</sup> Lee, Suk, et al. 2010. "Analyzing and Restructuring the DPRK Trade Statistics of 1990~2008." *KDI Research Paper*. July: pp. 132-136

<sup>85</sup> Yoon, Seok. 2007.

In 2006, South Korea agreed on a FTA with the European Free Trade Association (EFTA) which consisted mostly of Scandinavian countries. The South Korea-EFTA FTA allowed tariff breaks up to 267 products from Kaesong. Same year, the South Korea-Singapore FTA concluded that Singapore would accept 4,625 of the KIC products as long as no products were directly exported from North Korea.<sup>86</sup> In 2007, the South Korea-ASEAN FTA allowed 100 products manufactured in the KIC to be applicable under the preferential tariff.<sup>87</sup> The South Korea-India FTA, which was concluded on August, 2009, also gave tariff breaks on 108 products. Furthermore, among the FTAs, the agreements mad with Singapore, EFTA, and ASEAN were under the “Kaesong Plus” which allowed the other industrial districts to enjoy the same benefits in the near future. This “Kaesong Plus” is moreover significant in that it includes future industrial districts constructed in North Korea to flourish under the new agreements.<sup>88</sup>

The FTAs mentioned above may have been a new opportunity for North Korea after its first nuclear test in 2006. Ever since the first nuclear experiment, North Korea’s overall trade with India and the ASEAN countries, mainly Thailand, Indonesia, and Singapore have decreased. The newly agreed FTAs served as an

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<sup>86</sup> KOTRA. 2007. “Kaesönggongdan Chep'umüi Haeop'allo: Kaedogukshijangüi Üiüiwa Chinch'ulbangan.” [KIC Products in Overseas Sales Channels: Implications and Measures for Developing Markets]. *Global Business Report* 07-042. Nov. 19: pp. 5.

<sup>87</sup> KDI. “Merchandise FTA with Five ASEAN Countries to Take Effect Next Month.” *Economic Policy Information for Citizens (EPIC)*. May 30.

<sup>88</sup> Park, Jeongjoon. 2015. “FTA Pyöl Kaesönggongdan Injöng Pangshik.” [FTA Measures of Acknowledgement in KIC]. *Hamkkehanün FTA* Vol.34. March 7.  
[http://www.fta.go.kr/webmodule/htsboard/template/read/fta\\_infoBoard\\_01\\_view.jsp?typeID=8&boardid=183&seqno=140825](http://www.fta.go.kr/webmodule/htsboard/template/read/fta_infoBoard_01_view.jsp?typeID=8&boardid=183&seqno=140825)

outlet for North Korea to export a portion of its goods to its former economic ties when everyone else was closing its doors against the North. More FTAs by South Korea allows more opportunities for products made in KIC to be exported to other countries with lower barriers.

## **2. Case Study: Shutdown of 2013<sup>89</sup>**

On April 3, 2013, North Korea announced that they will again ban the traffic from KIC, and that it will not allow new workers from South Korea to enter the complex. The threat began at the end of March, when the General Bureau for the Guidance of the Special Zone Development stated that the park would be closed if South Korea did not change its attitude. They argued that “its dignity was insulted by South Korean news media reports that suggested the North kept the complex open to obtain hard currency.”<sup>90</sup> By April 3<sup>rd</sup>, the North banned South Koreans entering the park, only allowing them to leave the complex. Eventually, one South Korean firm had to halt all their productions due to lack of materials and

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<sup>89</sup> See Appendix 1 for detailed for the overall timeline of important events.

<sup>90</sup> Choe, Sang-Hun and Gerry Mullany. 2013. “North Korea Threatens to Close Factories It Runs With South.” The New York Times. March 30. Accessed February 12, 2016. [http://www.nytimes.com/2013/03/31/world/asia/north-korean-sites-are-down-in-possible-cyberattacks.html?\\_r=0](http://www.nytimes.com/2013/03/31/world/asia/north-korean-sites-are-down-in-possible-cyberattacks.html?_r=0)

by April 7<sup>th</sup> 13 firms had to suspend their operations.<sup>91</sup> On April 8<sup>th</sup>, North Korea officially announced to suspend all its workers from the zone. 53,000 workers had to pull out while a couple hundred decided to remain in the complex. However, issues aroused as they started to run out of food and had medical problems. By May 3<sup>rd</sup>, all South Koreans have left the KIC.

All of a sudden, on June 6<sup>th</sup>, the North called for talks with South Korea about reopening the industrial complex and restarting the tourist exchanges. Some analysts argue that the timing of the reaching out was intentionally planned, as President Obama and Chinese leader Xi Jinping were scheduled to meet in California the day after. In order for China to have a better position during its meeting with the US, there were some speculations that Xi gave pressure to the North Korea's leaders urging them to stop their hostility towards the South.<sup>92</sup> However, the two Koreas had difficulties to reach an agreement as both states were blaming on each other for the shutdown. After seven rounds of meetings, the KIC was officially declared to reopen on September 16<sup>th</sup>.

This was the longest closing since the facility was first developed. The tentative suspension lasted for five months and during this period, all productions and exports were completely frozen. The complex opened again in September, and

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<sup>91</sup> Yonhap News. 2013. "Chronology of N. Korea's suspension of Kaesong Park." *Yonhap News* April 8. Accessed in February 12, 2016.  
<http://english.yonhapnews.co.kr/news/2013/05/03/14/0200000000AEN20130503007800315FHTML>

<sup>92</sup> Choi, Jung-yoon and Barbara Demick. 2013. "North Korea calls for talks with South Korea about industrial park." *The Washington Post*. June 6. Accessed in February 13, 2016.  
[https://www.washingtonpost.com/world/north-korea-calls-for-talks-with-south-korea-about-industrial-park/2013/06/06/82476d88-cebf-11e2-9f1a-1a7cdee20287\\_story.html](https://www.washingtonpost.com/world/north-korea-calls-for-talks-with-south-korea-about-industrial-park/2013/06/06/82476d88-cebf-11e2-9f1a-1a7cdee20287_story.html)

since then gradual progress was made.<sup>93</sup> The origins of this incident dates back to December, 2012 when North Korea successfully launched the satellite and the United Nations Security Council, with the lead of the United States, passed resolutions to sanction North Korea as a penalty.<sup>94</sup>

The biggest difference compared to the 2009 shutdown of KIC would be the change in North Korean leadership. After the political transition from Kim Jong Il to Kim Jong Un. The cause of the 2009 shutdown is considered to be from the military and security threat from US-South Korea joint military exercise. However, in 2013, neither South Korea nor the US brought direct security threats making North Korea unilaterally close the KIC. Some argue that Pyongyang decided to shut down the KIC for internal security concerns after its leadership transition. In order to strengthen the new leadership, North Korea had to show its strong stance and inadvertently show aggression to its enemy states.<sup>95</sup>

### **1-1. Foreign Exchange Earnings**

After the reopening in 2009, the production level in KIC grew up to 83% by 2012. The continuous increase in production level shows that even after the short

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<sup>93</sup> NK Brief. 2014. "Kaesong Industrial Complex: One Year after Resuming Operations." *Institute for Far Eastern Studies*, Kyungnam University.

<sup>94</sup> Kim, Jin Hyang. 2013. "The Cause and Solution of Kaesong Industrial Complex Incident, Process of Trust? Indifference and Distrust of the Kaesong Industrial Complex Closure Process," *Minjog21*: pp. 56-63.

<sup>95</sup> Mansourov, Alexandre. 2013. "Fear Prevails Over Greed: The Kaesong Shutdown." *38 North*. May 21.



closure in 2009, KIC stood sturdy in bringing economic earnings to the North. However, as can be seen from Table 9, the production level cutback in half during the shutdown period in 2013. Though a year later, the level resumed to its previous level before the shutdown.

**Table 9: Production Level of KIC (2010-2014)**

	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
<b>Production Level (\$10,000)</b>	32,332	40,185	46,950	22,378	46,997

Source: Ministry of Unification

In contrast, the closure in 2013 was longer than the previous shutdown in 2009 making the production level to reduce to half of size which was similar to its level in 2008. It took six months to retrieve its level of January 2013 (See Table 10). Just during the first three months in 2014, the output reached 1.06 million USD which was close to the production levels in 2012.

**Table 10: Monthly Comparison of the Production Level (2013 and 2014)**

	January	February	March	April	May	June
<b>2013</b> <b>(\$10,000)</b>	4,104	3,952	4,578	-	-	-
<b>2014</b> <b>(\$10,000)</b>	3,236	3,252	4,193	4,173	4,279	3,763
<b>Comparison</b>	-21.2	-17.7%	-8.4%	-	-	-
	July	August	September	October	November	December
<b>2013</b>	-	-	-	3,081	3,135	3,529
<b>2014</b>	4,202	4,020	3,955	4,105	3,813	4,006
<b>Comparison</b>	-	-	-	+33.2%	+21.6%	+13.5%

Source: Ministry of Unification

## 1-2. Foreign Direct Investment

Even though there was the tragic incident of the sinking of Cheonan warship in 2011, the South Korean government still gave a green light to seven new companies to build new factories and five others to extend their own buildings. Other than new companies developing their factories, more infrastructures were constructed in the complex to enhance the welfare of the people. The comprehensive support center was completed right after the re-opening of the complex in 2009. The 15<sup>th</sup> story center holds offices for the management committee and is equipped with business facilities and public information hall. The fire station was first under construction after the reopening in 2009 and was finalized in December, 2012. In November 2010, a daycare center was open and the inspection office and convenience facilities were completed in 2012. Moreover,

the commuter buses were expanded and as by 2012, 276 buses were in operation around Kaesong. One of the biggest developments would be the extension of the communication lines in 2010 and the expansion of the water supply, wastewater treatment, and waste disposal and incineration capacities in 2011. However, some constructions had to be ceased due to the shutdown in 2013 such as the waste incinerators and water pumps.<sup>96</sup>

After the reopening in 2013, the infrastructure, especially the electricity, water, and gas facilities, were inspected for a full operation. Most companies were able fully operate again after their urgent facility inspections. Even though, some repair work was hindered due to the rainy seasons in August, the complex was able to fully resume its operation by September.

### **1-3. Government Revenue**

#### **Rent**

With the 10 years of grace period coming to an end, the two Koreas went through a 13 month negotiation process to settle down the rent fees. The official agreement was signed on December 24, 2015. The Ministry of Unification announced that the South Korean companies will have to pay 64 cents per 1 square meter. Considering that there are 124 South Korean companies occupying about 920,000 square meters of land, South Korean companies in total would pay a rent fee of \$528,925 to the North Korean government. Rent agreements were to be

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<sup>96</sup> ROK Ministry of Unification. 2010.

negotiated every 4 years and the adjusted amount would not exceed 20%.<sup>97</sup> Therefore, in two years after the reopening of the KIC, North Korean government would have another channel to receive its revenue through rent fees from South Korean companies.

## **Tax**

The first corporate income tax was paid in July, 2012 with one South Korean company submitted \$7,000 of income tax. During this year, four more companies paid a total of \$155,000.<sup>98</sup> Three of the companies were in the machinery sector and one was in the chemical industry. As mentioned in the previous section, companies engaged in the manufacturing sector had to pay 14% of income tax. However, they are exempt from that tax for their initial 5 years of creating profit, and additional 3 years of 50% tax cut. Therefore, the company that submitted the first income tax to North Korea had been making tax-free profit up to year 2009, and was required to pay 50% of its total income tax the year after.

This development indicates that the four firms were beginning to make profit since the first development of the KIC. Moreover, the officials in the Ministry of Unification expected more South Korean companies to pay income tax

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<sup>97</sup> Chun, Su-Jin and Myo-ja Ser. 2015. "Two Koreas conclude Kaesong fee negotiation." *Korea Joongang Daily*. Dec 26. Accessed in March 2, 2016.  
<http://koreajoongangdaily.joins.com/news/article/Article.aspx?aid=3013210>

<sup>98</sup> According to the ROK Ministry of Unification, the first company which was taxed \$7,000 was on the profits for fiscal year 2010, while the other three companies were on profits in fiscal year 2011.

to the North from 2013 since most firms in the industrial park were creating more profits year after year.<sup>99</sup> Therefore, North Korean government was subject to receive more tax revenues as the KIC continued to flourish over the years.

In August 2012, the North unilaterally notified its revised tax plan which stated that the “North Korean regime can unilaterally determine how much tax it will levy on the Southern companies and demand overdue taxes for up to eight years.”<sup>100</sup> The overdue taxes were determined when the North Korean officials claimed that the price of a certain product was “inappropriate,” and that they would have to re-evaluate and demand additional taxes. According to the Ministry of Unification, 19 out of 123 companies already had to make the new tax payments to the North Korean regime. One businessman testified that his company had to pay \$30,000 for the “overdue” taxes.<sup>101</sup>

## **Wage**

Even after the reopening in 2009 the North continued to receive consecutive annual wage increase of 5%. However, as can be seen from Table 11,

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<sup>99</sup> English News Chosun Ilbo. 2012. “Kaesong Firms Start Paying Tax to N. Korea.” *Chosun Ilbo*. Jul. 12. Accessed March 3, 2016.  
[http://english.chosun.com/site/data/html\\_dir/2012/07/12/2012071200642.html](http://english.chosun.com/site/data/html_dir/2012/07/12/2012071200642.html).

<sup>100</sup> Lee, Won-jean. 2012. “North hikes tax rates on companies in Kaesong.” *Joongang Daily*. Oct 17. Accessed March 3, 2016.  
<http://koreajoongangdaily.joins.com/news/article/article.aspx?aid=2960936>

<sup>101</sup> This is from an interview from a South Korean businessman in Kaesong with the Joongang Daily (See footnote 100).

there was no increase in 2013 due to the shutdown. In 2014, Pyongyang requested a 10% increase so that it can make up for the past year. This request was declined since the shutdown was a unilateral decision from the North.

**Table 11: Minimum Wage of North Korean Workers (2010-2014)**

	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
<b>Minimum wage</b>	63.8	63.8	67.0	67.0	70.3

Source: ROK Ministry of Unification

From Table 12, ever since the first shutdown, the percentage of the total wage from KIC to the total volume of trade has increased to 1.26%. The percentage indeed decreased during its second shutdown but resumed in 2014 as it reached up to 1.32%. Yet, again the numbers are still very low to argue that the money the government taken from the North Koreans' wage was significant to the government to reopen the complex in 2013. Kim, comparing this amount to the North Korea's GDP, argues that KIC is too small to have a big impact on the overall North Korean economy. There are only 123 companies stationed at Kaesong and it seems that the area is like a deserted island for its economy.<sup>102</sup> Even if the revenue which the government received from the KIC wages is compared to the overall North Korean trade, the portion is only one percent which also cannot be considered to be enough to bring great economical change to the country. Nevertheless, North Korea has been losing its sources to attain hard currency revenues since the 1990s. Therefore,

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<sup>102</sup> Kim, Byoung Youn. 2015.

the workers' wages paid by the South Korean companies in Kaesong would be one of the most valuable sources of receiving the hard currencies.

**Table 12: Portion of North Korean Wage to Trade Volume (2010-2014)**

	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
<b>Number of North Korean Workers</b>	46,284	49,866	53,448	52,329	53,947
<b>Monthly average wage</b>	93.7	109.3	134	128.5	155.5
<b>Yearly wage</b>	1124.4	1311.6	1608	1542	1866
<b>Overall Wage from KIC</b>	52,041,730	65,404,246	85,944,384	80,691,318	100,665,102
<b>Trade Volume (KOSIS)</b>	4,170,000,000	6,360,000,000	6,810,000,000	7,340,000,000	7,610,000,000
<b>Percentage of KIC wage to Annual Trade Volume</b>	1.25	1.03	1.26	1.10	1.32

Source: ROK Ministry of Unification, Korean Statistical Information Service (KOSIS)

#### 1-4. Export Growth

By 2014, China took part 65% of North Korea's exports while South Korea came up second accounting for 27% of exports.<sup>103</sup> Among the 27% of inter-Korean trade, the trade through KIC took over all of the overall trade since 2011. As can be seen on Table 14, the percentage of the KIC trade has been over 99% over the 5 years. Therefore, it meant that the only export to South Korea was through Kaesong. If Kaesong were to shut down completely, it would mean that there will be no more inter-Korean trade as well.

**Table 13: Percentage of KIC Trade to Overall Inter-Korean Trade (2010-2015)**

<b>Year</b>	<b>Trade through KIC</b>	<b>Overall Inter-Korean Trade</b>	<b>KIC trade percentage of overall trade</b>
<b>2010</b>	1,443	1,912	75.47%
<b>2011</b>	1,698	1,714	99.07%
<b>2012</b>	1,961	1,971	99.49%
<b>2013</b>	1,132	1,135	99.74%
<b>2014</b>	2,338	2,343	99.79%
<b>2015</b>	2,704	2,714	99.63%

Source: ROK Ministry of Unification (Unit: Millions of dollars)

Since its reopening in 2009, the total amount of exports in Kaesong slightly increased and was also quite stable. However, Table 14 shows the export rate continuously diminishing over the years. This is due to the fact that the total

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<sup>103</sup> Estimates from The CIA World Factbook based on the year 2014.



production was increasing at a faster rate than the export amount. South Korean companies were continuously producing more each year; yet, the products remained mostly in the South rather than reaching out to other countries. The situation got worse after its second period of shutdown in 2013. Both the total amount of export and the export rate decreased exponentially. Since its reopening, the export rate has still not recovered.

**Table 14: Export Rate (2010-2014)**

	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>Total</b>
<b>Total Amount of Export (\$10,000)</b>	3,667	3,687	3,639	1,210	1,530	13,733
<b>Export Rate (%)</b>	11.34	9.18	7.75	5.41	3.26	7.27

Source: ROK Ministry of Unification

Among the few exports, by 2010, the primary 3<sup>rd</sup> countries were Australia, the European Union, Russia, and China.<sup>104</sup> After its first shutdown, Kaesong was open to new opportunity in 2011 with another FTA agreement with Peru which allowed 100 items to receive tariff benefits. Yet, the South Korea-China FTA would have been the biggest factor that can bring great benefits to the export figures for Kaesong. The first kick off meeting was held in May 2012. The agreement was still under negotiations during the shutdown period in 2013. However, it was soon finalized at the end of 2014. The final agreement took effect in 2015 allowing more

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<sup>104</sup> Manyin, Mark E. and Dick K. Nanto. 2011.

than 300 products manufactured in KIC to have special tariff reductions for their exports to China. This would be the largest number of products to be eligible for the tariff benefits in a bilateral trade agreement signed by South Korea. The updated South Korea-China FTA also included an article that allowed future industrial complexes built offshore will be part of this FTA.<sup>105</sup> Moreover, this agreement was under more flexible conditions compared to the deal with ASEAN. The South Korea-ASEAN FTA recognized the products from Kaesong to be South Korean products only if the inputs, such as transportation and wages, outside the place of origin did not exceed 40% of the end price. On the contrary, the China FTA did not include wages or transportation as a condition.<sup>106</sup> In addition, South Korea was under FTA negotiations with Vietnam since 2012. Within this agreement, they were also to negotiate the products manufactured in Kaesong. The agreement was finally signed in 2015, and Vietnam decided to cut down its rules of origin and customs clearance for 100 manufactured products in KIC. The agreement with Vietnam was significant for KIC as it cleared up some obstacles which KIC had originally with the ASEAN FTA. After the ASEAN FTA was negotiated, for a long period, the target tariff reduction products did not meet with the actual manufactured products. Therefore, out of the original 100 products agreed in the ASEAN FTA, 70 products were modified to actually conform to the reality.<sup>107</sup>

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<sup>105</sup> Kim, Ji-yoon. 2015. "Korea-China FTA includes Kaesong." *Joongang Daily*. Feb 26. Accessed March 3, 2016.  
<http://koreajoongangdaily.joins.com/news/article/article.aspx?aid=3001243>

<sup>106</sup> Kim, Jeong-pil. 2015. "S. Korea-China FTA could change the game for Kaesong Industrial Complex." Feb 26. *The Hankyoreh*. Accessed March 3, 2016.  
[http://english.hani.co.kr/arti/english\\_edition/e\\_international/679870.html](http://english.hani.co.kr/arti/english_edition/e_international/679870.html)

<sup>107</sup> Lee, Jong Hyun. 2014. "Han-Pet'ūnam FTA Chungsoe Hyet'aek... Hwajangp'um,

Such new FTAs, especially with the countries that North Korea has significant ties, would assist the export growth for KIC and overall North Korea.

#### **IV. Indirect Effects**

If the direct effects of KIC were used as an instrument to bring in hard currency and enhance its exports in short periods of time, indirect effects were in value to bring long-term and broader responses for economic growth. Even though the indirect effects are far more challenging to measure, they are critical in bringing sustainable economic development and deliver positive externalities which include not only economic benefits but also noneconomic and social benefits. As the following indicators deal with long-term and continuing effects, instead of dividing them into two different time periods, each indicator will be discussed within the overall period of KIC development.

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Chadongch'abup'um Suhye.” [Korea-Vietnam FTA Benefits Small Businesses... Makeup, Car parts Benefit the most]. ChosunBIZ. December 11. Accessed March 3, 2016.  
[http://biz.chosun.com/site/data/html\\_dir/2014/12/11/2014121101530.html](http://biz.chosun.com/site/data/html_dir/2014/12/11/2014121101530.html)

## 1. Skills Upgrading<sup>108</sup>

Developing human capital is essential for any country's long-term economic growth. The quality of the human capital is usually referred to the acquisition of skills through education and training. The enhancement of human capital through more education and technological progress will allow the inputs to be produced more efficiently and therefore become a key factor of long-term endogenous economic growth.<sup>109</sup> Mankiw et al moreover argues that "investment in human capital also becomes more quantitatively important when a more open trading environment and a better public infrastructure are in place."<sup>110</sup> Enhancing the skills of its people working in Kaesong where it is relatively more open trade and better infrastructure compared to other parts of North Korea, would enhance and transform the overall human capital.

In order to figure out how much KIC had an effect on the skills of North Korean labor, it is best to determine the productivity level. Kim calculated the output per person under constant prices and concluded that the overall productivity of North Korean workers increased in average 18.4% annually from 2005 to

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<sup>108</sup> Kim, Byoung Youn. 2015: pp. 190.

<sup>109</sup> Barro, R.J. 1991. Economic growth in a cross section of countries. *Q.J. Econ* 106 (102): pp. 407-443.

<sup>110</sup> Mankiw, N., Romer D., Weil, D. 1992. "A contribution to empirics of economic growth." *Q.J. Econ.* 107 (2): pp. 407-437.

2012.<sup>111</sup>

**Table 15: Productivity Level of North Korean Workforce (2005-2013)**

	2005	2006	2007	2008	2009	2010	2011	2012	2013
<b>Output per person (constant price, \$1)</b>	2,287	5,978	7,467	5,711	5,376	6,180	6,900	7,463	3,603
<b>Rate of increase</b>		161.3	24.9	-23.5	-5.87	15.0	11.7	8.16	-51.7

Source: Kim, Byoung Youn.2015. “The Economic Effects of Kaesong Industrial Complex.”

According to Kim, he believes that the productivity of North Korean workers has increased due to three reasons. First, the introduction of South Korean capital and technology would have spurred the initial development of the productivity increase. Second, the nutrition status of the North Korean workers has been improving after the North Koreans have started to work in KIC. Last, the turnover rate was pretty low to be 10%. As a result, workers were working at one company for a long period of time which would make their skill-level to increment.<sup>112</sup> Of course, as shown in Table 15, the shutdown in 2009 influenced the productivity level to decrease. If the North did not unilaterally shutdown the

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<sup>111</sup> The original output per person was provided from the Ministry of Unification with market prices. However, in order to measure the true growth of Kim adjusted the effects of price inflation.

<sup>112</sup> Kim, Byoung Youn. 2015: pp. 190-191.

complex, the rate of productivity would have not decreased exponentially. Yet the overall productivity level grew in average 18.4% per year since its opening until 2013.

Even though the zone experienced the two shutdowns, the productivity level still proved to increase as the South Korean firms have made great efforts to provide specific training programs for their workers to enhance their productivity. Below is a sample training program from SD Trading Company (See Figure 3). They focused to assist in understanding the basic technology and knowledge about the products and their assigned jobs. They did not just stop there but also helped in improving their skills and promote quality enhancement and capacity building. The trainings also included organizational and management skills. The overall training sessions proved to be successful. Five months after the completion of the three months of the systematic trainings, the South Korean companies were able to achieve 60% of productivity level. The quality of the products were considered to be competent and assured more investments into KIC<sup>113</sup>

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<sup>113</sup> Lim, Eul-chul. 2007.

**Figure 3: Sample Training Program**



Source: Lim. 2007.

## **2. Technology and Knowledge Transfer**

Unfortunately, there is not much data to measure technology and knowledge transfer in KIC. Furthermore, many argue that it is generally more difficult to have technology transfers in SEZs where they usually focus on low skill type industries such as textiles that do not require great skill.<sup>114</sup> However, technology transfer still can occur when new high value-added technological activities are introduced.<sup>115</sup> Such transfer has much more impact in Kaesong,

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<sup>114</sup> Madani, D. 1999.

<sup>115</sup> Aggarwal, Aradhna. 2007. "Impact of Special Economic Zones on Employment, Poverty and Human Development." *Indian Council for Research on International Economic Relations. Working Paper No. 194*: pp. 13

North Korea where it severely lacked any technological advancement.

The most popular mode for transferring technology in SEZs was by the use of imported machinery.<sup>116</sup> It is true that out of 125 companies in KIC, 73 were textile related companies which the North Koreans were more accustomed to since their overall main exports relied heavily in this industry. Yet, the number of companies engaged in machinery and electronics industries also have increased in Kaesong (See Table 16). Overall, machinery was important to the South Korean companies, as out of the total invested amount of the South Korean companies, 41.8% was invested in the machinery industry.<sup>117</sup> Here, the firms were able to introduce high technological machinery to its North Korean workers. Especially for the North Koreans, the technology transfer occurring in KIC would have a greater impact as they were mostly accustomed to a no-technology based environment.

**Table 16: Industrial Classification in KIC (2007-2014)**

<b>Industrial Classification</b>	<b>2007</b>	<b>2010</b>	<b>2014</b>
<b>Textile</b>	52	70	73
<b>Chemicals</b>	2	9	9
<b>Metals and Machinery</b>	17	22	24
<b>Electric and Electronic Goods</b>	5	13	13
<b>Other</b>	-	4	6
<b>Total</b>	71	121	125

Source: Ministry of Unification

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<sup>116</sup> Aggarwal, Aradhna. 2007.: pp. 42.

<sup>117</sup> 54.3% was the construction, 3.9% was for the land. Source by ROK Ministry of Unification. 2010: pp 69.



Current knowledge transfers in KIC are mostly through training sessions. It is surveyed that 80% of the companies provide technical and practical training to its North Korean employees.<sup>118</sup> The training goes back to delivering basic and practical practices, such as sewing and clothes cutting for textile related companies. A South Korean engineer would lead the sewing session with a weekly theory class with textbooks and another week of practical training. Other education sessions included quality control and customer satisfaction services.<sup>119</sup> Furthermore, the Kaesong Industrial District Management Committee conducted accounting education for North Korean accountants to improve their business skills. 21 North Koreans attended and learned about accounting principles, revenues and costs, and commodities trading.<sup>120</sup>

South Korean companies in addition have provided training for basic computer skills and even high-level education on production technology. Some companies provided technology guidance with the South Korean workers in KIC directly training the North Korean workers. For example, a company provided their employees with computer training for a month and even brought in foreign experts to run higher level training sessions. According to one survey from the South Korean companies, 50% of them believed it were necessary to have trainings in

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<sup>118</sup> Kang, Ilkyu. 2006. “Kaesönggongdan Kŭlloja Injökchawön Hwaryong Mit Nodongnyök Shilt'aewa Injökchawön Kaebal Ch'awönüi Hyömnnyökpangan” [Human Resources Utilization of KIC Workers and Situation of Labor and Developing Cooperative Measures in Human Resources]. *Kukchegyoryöhak'oe Söulchihoe Nonmunjip* Vol. 9: pp 172.

<sup>119</sup> Lim, Eul-chul. 2013.

<sup>120</sup> Daily NK. 2006. “Accounting Education to North Korean Workers in KIC.” *DailyNk*. Nov 30. Accessed March 10, 2016.  
<http://www1.dailynk.com/korean/read.php?catald=nk09000&num=33561>

manufacturing, 40% in technical training, 10% in office work. Through this survey, it can be inferred that the North Korean labor could expand from simple, low-skill manufacturing to become skilled and technical employment in the near future.<sup>121</sup>

In 2007, South Korean government conjointly developed a technical education center in Kaesong to enhance the efficiency of the training sessions to the North Korean workers. The center is 23,142 meters squared which includes 22 classrooms, seminar and meeting rooms, and a cafeteria. Additionally, technology and knowledge transfer has risen to become a critical issue for the North Korean government as well. North Korea's new leader Kim Jong Un started to emphasize the importance of advanced science and technology. In November 2013, they announced to build a high-tech industrial park in Kaesong. Premier Pak Pong Ju moreover emphasized the importance of attracting investment in this sector.<sup>122</sup> As can be seen from this ambitious plan, it seems that Kaesong had the potential of providing a stepping stone for more technology transfer to North Korea.

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<sup>121</sup> Kang, Ilkyu. 2006

<sup>122</sup> NK Brief. 2013. "North Korea Emphasizing the Development of Science and Technology for the Construction of a Powerful Nation." *The Institute for Far Eastern Studies*. Kyungnam University.

### 3. Demonstration Effect

After the long years of famine and devastation, North Korea has been trying to introduce the market system measures by mainly drawing more foreign investment through special economic zones. The main policy which the regime has been emphasizing more recently is the “Byungjin policy.” Yet, this policy is not a newly introduced policy as it was first referred in 1962. The policy was to have a parallel development policy, which they would promote both nuclear development and economic growth equally. By achieving both, the regime would be acknowledged to have nuclear might as well as bring economic and political stability.<sup>123</sup>

As part of the new economic policies, Kim Jong-il first unveiled the “July First” economic reform in 2002 to support his military first tactics. It was one of the groundbreaking economic reform packages in North Korean history. It introduced the most significant market-oriented measures which included monetization, decentralization and finally capital acquisition strategies. The third measure was to encourage investment and establish several special economic zones.<sup>124</sup> The biggest success among the three reform strategies would be the

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<sup>123</sup> Lee, Younghoon, 2013. “Kimjǒngūn Shidaeūi Kyǒngje-Haengmuryōk Pyǒngjinnosŏnūi T’ukchingwa Chisokkanūngsǒng.” [The Characteristics and the Sustainability of Kim, Jong-un Period of Economic-Nuclear Power Byungjin Policy]. *The Korean Association of North Korean Studies*. Vol. 19 No. 1.

<sup>124</sup> As can be seen from Table 18, the three SEZs in 2002 include Sinuiju Special Administrative Region, the Kumgang Mountain Tourism Zone, and the Kaesong Industrial Complex.

enactment of the Kaesong Industrial District Law, which pulled in stable foreign investments from South Korea. Kaesong was the platform to introduce market economy elements into the controlled economy.

Before the KIC, the regime previously had made efforts to experiment in limited economic opening by creating the Rajin-Sonbong economic zone in 1991. This all began when Kim Jong-il visited the successful zone in Shanghai, China in 2001. After seeing the successful experience in China, significantly impacted the North Korean leadership to further commit in utilizing the SEZs to enhance its economy growth. However, the regime, at the same time, was also aware of the so-called “reform dilemma,”<sup>125</sup> which meant that the economic opening and the foreign influence would endanger the legitimacy of the regime. Therefore, the regime had to be very passive in their opening and minimized the foreign influence at its best and moreover be cautious of the investment flowing into the country. However, due to the high restrictions and limitations, North Korea failed to attract foreign investment in Rajin-Sonbong. The government was naïve in believing that it could control foreign influence while attracting investment just by opening up one area. Learning from its mistakes, the Sinuiju SEZ, on the other hand, had its independent legislation and administration. However, this zone has also been less of a success when the city’s governor Yang Bin was arrested and sentenced to 18 years in prison by the Chinese authorities on charges of corruption and therefore slowed the progress of the zone.<sup>126</sup>

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<sup>125</sup> Kim, Youn-Suk. 2005.

<sup>126</sup> Watts, Jonathan. 2003. “Tycoon jailed for 18 years.” *The Guardian*. July 15. Accessed in March 15, 2016. <https://www.theguardian.com/world/2003/jul/15/china.jonathanwatts>

Accordingly, the first and second experiments were both regarded as a failure<sup>127</sup>; yet, the North learned from its past and had to rely on its sole successful experiment, the KIC.<sup>128</sup> Compared to the other failed zones in North Korea, KIC stood out to efficacious and successful. Kaesong continued to provide foreign investments to the country and hard currency to the regime. It not only developed the productivity and capacity of its people but also complemented the overall welfare and enhanced the development of the region.

With such success, North Korea has been pushing to create more economic zones as a way to follow their “Byungjin policy.” With the minimal impact on their political system, as part of their effective measures to promote open economy policies, North Korea is heavily promoting to expand more SEZs. Table 17 outlines the zones which the regime planned to promote and pursue its economic growth. Again, the development of SEZs began as early as 1991. The government took significant revisions to its legal provisions and incentives towards SEZs. Out of the previous 4 developed economic zones, KIC only seems to be the only zone which brings noticeable profits not only to the hosting country but more to the invested country. As a result, the expansion of the SEZs began as the new leader Kim Jung Un emphasized the “Byungjin policy,” and began to promote the expansion of new SEZs in North Korea.

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<sup>127</sup> According to the Rajin-Sonbong City People’s Committee, by 1999, only 36 companies had invested a total of 100 million USD.

<sup>128</sup> Sandhu, H., 2003. “A Doomed Reform: North Korea First with the Free Market,” *Harvard International Review*, 25(1), Spring: pp. 36–39.

**Table 17: Economic Zones in North Korea**

	<b>Special Economic Zones</b>		<b>Economic Development Zones</b>	
<b>Type/ Location</b>	<b>Economics</b>	Rason (1991)	<b>Economics</b>	Hyesan (2013), Manpo (2013), Chongjin (2013), Amnokgang (2013), Kyongwon (2015)
	<b>Industrial</b>	Kaesong (2002)	<b>Industrial</b>	Wiwon (2013), Hungnam (2013), Hyundong (2013), Cheongnam (2014)
			<b>Tourism</b>	Sinphyong (2013), Onsong Island (2013), Cheongsu (2014), Mubong (2015)
	<b>Tourism</b>	Kumgang (2002)	<b>Export Processing</b>	Jindo (2013), Songrim (2013), Wawoodo (2013)
			<b>Agricultural</b>	Pukchong (2013), Orang (2013), Sukcheon (2014)
	<b>Special Administrative</b>	Shinuiju (2002)	<b>High- Technology</b>	Eunjong (2014)
			<b>Environmental</b>	Kangryong (2014)

Source: KDB Industrial Bank

Economic development has risen to become one of the decisive factors for the North Korean regime. Table 18 shows how much the North Korean government is placing more value on economic exchanges rather than focusing on political and military fields. Ever since the establishment of KIC, one can see the new

phenomenon of the North Korean government increasing more economic contacts and less military or political meetings with the South. Just from the years 2001 to 2008, economic talks outweighed both military and political talks combined. This indicates that the North is placing more value on the economic exchanges, and the development of the KIC is taking an immense part in this trend.

**Table 18: Number of Inter-Korean Talks by Area**

<b>Field/Year</b>	<b>71-99</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>Total</b>
<b>Political</b>	189	18	2	4	5	2	10	5	13	-	248
<b>Military</b>	0	4	2	9	6	5	3	4	11	2	46
<b>Economic</b>	5	3	3	14	17	13	11	8	22	3	99
<b>Humanitarian</b>	119	2	1	3	7	2	4	3	3		144
<b>Social and Cultural</b>	34	-	-	2	1	1	6	3	6	1	54
<b>Total</b>	347	27	8	32	36	23	34	23	55	6	591

Source: ROK Ministry of Unification

With more focus on economic development, KIC has grown to be a critical platform for the North Korean regime to experiment its economic liberalization through the increase in trade, technology and knowledge transfer. As the “Byungjin policy” is implemented, the successful experience with the KIC would be evermore significant and associable for future developing SEZs in North Korea.

## 4. Female Employment

Numerous empirical studies between female employment and economic growth have been conducted at a global level, which implies that its findings could apply to various countries including North Korea. Studies conclude that role of women in the labor force is crucial in the country's economic development as their participation brings significant macroeconomic gains.<sup>129</sup> When women are free to work, they are more willing to contribute to the development not only of their families but also outside of their communities and societies. This will eventually ensure continued and long-term economic growth.<sup>130</sup> All in all, the enhancement of female employment in KIC will become a critical element in delivering long-term and sustainable development to North Korea's economy.

In 2006, it was estimated that about 59.8% of the North Korea workforce in KIC were female workers. The high rate of female employees may be due to the high composition of textile industries in KIC. This percentage of female employment increased up to 72% by 2013.<sup>131</sup> Among the female employment the

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<sup>129</sup> Loko, B., and Mame A. Diouf. 2009. "Revisiting the Determinants of Productivity Growth: What's New?" *IMF Working Paper* 09/225.; Dollar, D., and R. Gatti. 1999. "Gender Inequality, Income, and Growth. Are Good Times Good for Women?" *World Bank Gender and Development Working Paper* No. 1.

<sup>130</sup> Organization for Economic Cooperation and Development. 2012. "Gender Equality in Education, Employment and Entrepreneurship." *Final Report to the MCM*. OECD.

<sup>131</sup> Interview from Won, Yuchul. 2013. "Kaesŏnggongdan Chikchŏp Kaboni.. Chiwŏn Chŏlshil." [After Visiting KIC... Needs More Assistance]. *YTN News*, October 31. Accessed March 16, 2016. [http://www.ytn.co.kr/\\_ln/0101\\_201310311302425774](http://www.ytn.co.kr/_ln/0101_201310311302425774)



majorities were married and whereas North Korea is a country where they have strong patriarchal and male-dominated society. Yet, the harsh economic difficulties forced the females to not only do the housework and child care but also to work for support their living expense.<sup>132</sup> As more females were pushed to go work outside of their homes, men were taking more responsibility in the housework and their feudal and outdated mindset had weakened with the growth of economic activities of women.<sup>133</sup>

However, this rate was decreasing as more and more female workers quit due to health and parenting issues. Since North Korea has strong patriarchal values in their households, it was quite challenging for the women to be solely responsible for childcare and housework and at the same time work full time at the factories.<sup>134</sup> To resolve this issue, a daycare center as well as a technical education center was created in 2009. These centers were to develop the productivity and raise the welfare of the North Korean female workers to reduce their absence rate. Childcare centers were critical to bring in female workers into the labor force. This was the reason the North Korean government accelerated in building more childcare

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<sup>132</sup> Park, Hyunsun. 2003. *Hyöndaebuk'ansahoewa Gajok [Modern North Korean Society and Family]*. Hanwool Academy. Seoul

<sup>133</sup> Jung, Geunsik and Yuna Kim. 2015. "Kongdan Pakküi Pyönhwa... Kaesöngjumin'gwa Puk'ansahoe." [Changes Outside the Zone... KIC people and North Korean Society]. In *Kaesönggongdan: Kongganpyöngghwaüi Kihoekkwa Hanbandohyöng T'ongilp'ürojekt'ü [KIC: Planning of Peaceful Space and Korean Peninsula Unification Project]*. 181-198. Seoul National University: Institute for Peace and Unification Studies: pp 332-333.

<sup>134</sup> Geum, Jaeho. Et al. 2011. "Kaesönggongdan Ipchugiöpp Chökhöng Nodongnyökkwa Chedohwa Panganyön'gu." [Study of KIC Tenants Fair Labor and Institutionalization]. *Business Trip Report*, ROK Ministry of Unification.

centers since the 1960s. Therefore, due to its significance, the daycare center in Kaesong was established as an exception during the 5.24 measure in 2010. It was a humanitarian act for the vulnerable groups in Kaesong, North Korea. The center was finally opened in September, 2010 that cared for more than 600 children. With good facilities and more than 50 North Korean nannies working, the accommodation was becoming very popular among the female workers. The KIC Management Committee moreover operated a free shuttle three times a day for the new moms to breastfeed their child at the daycare center.<sup>135</sup>

## **5. Regional Development**

Kaesong is a historical city with great culture and traditions. It has about 200 thousand people and is connected by a Pyongyang-Kaesong highway constructed in 1992. Moreover, as an old capital to Koryo Dynasty, the city is filled with historical monuments and cultural values. Though the city has great importance and potential, the city experienced hardships and great mistreatment. Throughout North Korean history, people from Kaesong suffered from discrimination as the government considered the people to be Anti-republicans and

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<sup>135</sup> Lee, Gukwon. 2012. "South Korean Government, Trying to Construct Two Additional Daycare Centers in KIC." Yonhap News, November 7. Accessed January 12, 2016. <http://www.yonhapnews.co.kr/politics/2012/11/07/0511000000AKR20121107099600043.HTM>  
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accused them of trying to refuge back to the South. Furthermore, the residence and passage throughout Kaesong was very restricted due to its close geographic location to South Korea. All in all, Kaesong was not an important city to the North Korean government. The city was mainly focused on light industry, but not many important companies were located in this region.<sup>136</sup>

However, the development of KIC led to the overall development of the Kaesong region. It not only transferred more employment for the North Korean people but also brought in more diverse industries into the city. Moreover, by 2013, Kaesong was announced to have the top technology in North Korea.<sup>137</sup> The biggest regional development would be the establishment of the Kaesong tourism. The agreements of the Kaesong demonstration tourism was finalized in 2005 and was implemented in December, 2007 when Hyundai-Asan assisted the ever first sightseeing tour of Kaesong. About 300 South Koreans were able to visit the city by bus. Lankov underlines the importance and the uniqueness of the Kaesong tour as it provided a firsthand experience of an urban area in North Korea. At the same time, the tourists were to visit the historic remains of the Koryo Dynasty.<sup>138</sup> Furthermore, in 2013, the Kaesong Historical Site was designated as the UNESCO World Heritage Site.

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<sup>136</sup> Dormels, Rainer. 2014. "Profiles of the cities of DPR Korea- Kaesong." *Universitat Wien*: pp. 268.

<sup>137</sup> Ibid: pp. 269.

<sup>138</sup> Lankov, Andrei. 2008. "A Long-term View on Kaesong Tour." *Korea Focus. Chosun Ilbo*. February 16. Accessed March 20, 2016.  
[http://www.koreafocus.or.kr/design2/layout/content\\_print.asp?group\\_id=101912](http://www.koreafocus.or.kr/design2/layout/content_print.asp?group_id=101912)

## 6. Indirect Employment Creation

Other than the direct employment of working in the factories in Kaesong, there are also various indirect occupations which were created to support the complex. According to the interviews from the defectors from Kaesong, the most popular jobs apart from working directly at the factory were restaurant staffs, physicians and doctors, and the sanitation workers.<sup>139</sup> The sanitation workers would attain great profits as people would say there is nothing to throw away in Kaesong. The industrial waste coming from factories such as boxes, plastic bags, and cloth remnants were collected and sold again.<sup>140</sup> Security officers were also recognized as an acknowledged occupation since they have the privilege of monitoring and even penalizing the workers in Kaesong. These jobs were prone to more bribery and lobbying since more and more North Koreans bribed to actually move into the Kaesong city for better employment and welfare.

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<sup>139</sup> Jung, Geunsik and Yuna Kim. 2015: pp 331.

<sup>140</sup> Ibid.

## **V. Implications of Direct Effects: Case Study Comparison**

By examining the direct benefits from KIC, specifically foreign exchange earnings, FDI, government revenue and export growth, this study can infer that the KIC has brought imminent economic earnings to North Korea. The foreign exchange earnings did increase throughout the years. As the production levels incremented over the years, the North was able to acquire direct foreign currency earnings through labor cost, sales, and freight revenue. To a region where it lacked infrastructure, FDI was critical in bringing greater development. KIC was moreover imperative to the North Korean government's revenue considering it brought in direct currency through rents, taxes, and wages from its workers. Export growth, compared to the previously mentioned indicators was as equal or even more significant to the North Korean economy. Considering the overall environment and circumstances of North Korea being secluded from the international community since its first nuclear test in 2006, the export growth through KIC emerged to become the sole and critical outlet for the North to export to other countries.

In order to answer why the North Korean government decided to reopen for each shutdown periods, each indicator will be compared between the two periods to analyze which factors influenced more in which year for the North to reopen the complex (See Table 19).

**Table 19: Summary of Comparative Analysis (Direct effects)**

Indicators		Shutdown 2009	Shutdown 2013																				
Foreign Exchange Earnings		<b>Production Level</b>																					
		<table><caption>Production Level Data</caption><thead><tr><th>Year</th><th>Production Level</th></tr></thead><tbody><tr><td>2005</td><td>1,491</td></tr><tr><td>2006</td><td>7,373</td></tr><tr><td>2007</td><td>18,478</td></tr><tr><td>2008</td><td>25,142</td></tr><tr><td>2009</td><td>25,648</td></tr><tr><td>2010</td><td>32,332</td></tr><tr><td>2011</td><td>40,185</td></tr><tr><td>2012</td><td>46,950</td></tr><tr><td>2013</td><td>22,378</td></tr><tr><td>2014</td><td>46,997</td></tr></tbody></table>		Year	Production Level	2005	1,491	2006	7,373	2007	18,478	2008	25,142	2009	25,648	2010	32,332	2011	40,185	2012	46,950	2013	22,378
Year	Production Level																						
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2007	18,478																						
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2009	25,648																						
2010	32,332																						
2011	40,185																						
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2014	46,997																						
Foreign Direct Investment		<ul style="list-style-type: none"><li>- 36 companies invested 8.9 billion won (2007)</li><li>- Construction of railway, roads, communication, electricity substation</li><li>- Other infrastructures: water supply plant, waste water treatment plant</li></ul>	<ul style="list-style-type: none"><li>- 7 new factories</li><li>- Expansion of the capacities of treatment facilities and communication lines</li><li>- Comprehensive support center, fire station, daycare center</li></ul>																				
Government Revenue	Rent	<ul style="list-style-type: none"><li>- Initial full payment: 16 million USD for 3.31 million square land lease</li><li>- 10 years of grace period</li></ul>	<ul style="list-style-type: none"><li>- Official agreement signed in Dec, 2015</li><li>- ROK companies were to pay around \$528,925</li></ul>																				
	Tax	<ul style="list-style-type: none"><li>- Corporate income tax: 10% (light industries), 14% (for others)</li><li>- First five years before generating profits will be exempt from tax</li><li>- Other tax channels</li></ul>	<ul style="list-style-type: none"><li>- First corporate income tax paid in July, 2012</li><li>- Total of \$155,000</li><li>- North Korean government demands for overdue taxes</li></ul>																				
	Wage	<ul style="list-style-type: none"><li>- North Korean government takes 15% for social insurance, 15~30% for socio-cultural policy fee</li></ul>	<ul style="list-style-type: none"><li>- Continuous increase in minimum wage, number of workers</li></ul>																				
Export Growth		<ul style="list-style-type: none"><li>- From 2006, North Korea’s exports to South Korea was larger than to China</li><li>- By 2009, KIC trade took over 55% of the overall inter-Korean trade</li><li>- New FTAs: EFTA, Singapore (2006), ASEAN (2007), India (2009)</li></ul>	<ul style="list-style-type: none"><li>- From 2011, KIC trade was 99% of the overall inter-Korean trade</li><li>- After it first reopening, the export rate has been decreasing</li><li>- New FTAs: Peru (2011), China (2014)</li></ul>																				

The graph shown in Table 19 exhibits that the first shutdown in 2009 did not disrupt the production level as much as the closing in 2013. Even though, the two shutdowns disrupted the growth, the levels seemed to retrieve to its original levels after one or two years of reopening. This shows that the KIC was stable and sturdy to bring earnings to the North despite the two periods of shutdown. After its reopening, the KIC would still attain higher levels of production year after year.

The foreign direct investment was more significant mostly during the initial period of the KIC development when the South Korean companies constructed the factories and the government built the supporting infrastructure. The newly developed infrastructure and the foundations of the “three communications” initially delivered greater impact during the first shutdown period. Nevertheless, the investment continued even after the first shutdown as the government provided more infrastructures such as daycare centers in the complex.

On the other hand, government revenue from rents and taxes had greater influence during the second shutdown period in 2013. The most direct incentive that the North Korean government could attain would be the revenue which the government directly received from the South Koreans. Among the three streams of gaining revenue, rent and tax had minor outcomes during the initial periods. First of all, there was a 10 year grace period of the rent payment which meant that the North did not receive any additional rent except for the initial land lease payment during their first year of construction. Yet, this grace period would have come to an end in 2015 which could be one of the causes for the North to reopen in 2013.

Second, South Korean companies were exempted from the corporate income tax during their first 5 years of generating profits. The North received their first corporate income tax from the South Korean companies in 2012. Even though there were different channels to collect taxes, they were quite trivial. Therefore, the rent and the tax would have only brought economic incentives for the North during the 2013 shutdown. The most significant revenue which the government collected would be wages earned from the North Korean workers. Not only the number of workers but also their average minimum wage increased over the years. If the overall wage per year from KIC is compared to the overall trade value, the percentage, even though it is increasing, is quite low to have an impact on the overall economy. On the contrary, if this amount is estimated into the market exchange rate, the value of the hard currency earned from KIC will be quite eminent. Conclusively, for the North Korean government having limited channels, the revenue from the wages in KIC would still be an important window to attain hard currency.

As can be seen above, the North received direct economic incentives through production levels, FDI, and government revenues. However, the most compelling indicator among the direct effects would be the export rate. Since its first nuclear test in 2006, the North Korea's exports were severely restricted. South Korea as a medium was an essential and somewhat desperate outlet for the North. The KIC was significant in that it had a great impact in the overall inter-Korean trade. KIC trade became more critical as its export to ROK grew larger than China since 2006. Moreover, the KIC trade consisted 99% of the overall inter-Korean trade by 2011.



The products manufactured in the KIC were moreover exported to other countries around the world which included China, Australia, and the European countries. Of course, there were many obstacles to the export of the KIC products such as the problem of country of origin. However, South Korea's efforts to sign new FTAs have resolved this issue so that the North could export its KIC products to the newly agreed countries. With the export rate of KIC products decreasing, South Korea's newly agreed FTAs became a critical factor to the exports of the products manufactured in KIC.

The FTAs with the European Union, ASEAN and Singapore brought great opportunities to Kaesong after its reopening in 2009. With the decreasing trade with India and the ASEAN countries, the newly agreed FTAs gave an opportunity for North Korea to export a portion of its goods to its former economic ties when everyone else was closing its doors against them. The most prominent FTA during the shutdown periods of 2013 would be the South Korea-China FTA. China is North Korea's biggest partner and the new FTA with the South implied that China was more open towards KIC products. The new FTA would exponentially increase the exports to China and this would have brought great incentives for North Korea to reopen in 2013.

## VI. Implications of Indirect Effects

The indirect effects deliver long-term economic development. They moreover carry sustainable economic development and deliver positive externalities which include both economic benefits and non-economic and social gains.

**Table 20: Summary of Analysis (Indirect Effects)**

<b>Indicators</b>	<b>Findings</b>
<b>Skills Upgrading</b>	<ul style="list-style-type: none"> <li>- Productivity level grew in average 18.4% a year</li> <li>- Factors for increase in productivity: new capital and technology inflow</li> </ul>
<b>Technology and Knowledge Transfer</b>	<ul style="list-style-type: none"> <li>- Technology transfer from imported machinery</li> <li>- Special training sessions: practical training (sewing, computer), improving business skills, education on production technology</li> <li>- Technical education center (2007)</li> <li>- North Korea's plan to build high-tech industrial park in Kaesong (2013)</li> </ul>
<b>Demonstration Effect</b>	<ul style="list-style-type: none"> <li>- China's influence: SEZs as a critical tool to enhance economic development</li> <li>- Failure of Rajin-Songbong Economic zones</li> <li>- More attention to economic development since the establishment of KIC</li> <li>- As part of North Korea's "Byungjin Policy"</li> <li>- Kim Jung-un's new emphasis on creating new SEZs</li> <li>- The success of KIC bringing economic benefits to North Korea is critical in becoming the forerunner for other SEZs</li> </ul>
<b>Female Employment</b>	<ul style="list-style-type: none"> <li>- Assist in bringing sustainable economic growth</li> <li>- 59.7% (2006) → 72% (2013)</li> <li>- Change of the patriarchal and male-dominated social values</li> </ul>
<b>Regional Development</b>	<ul style="list-style-type: none"> <li>- Originally discriminated and underdeveloped region</li> <li>- Designated as UNESCO World Heritage Site (2013)</li> <li>- Development of Kaesong tourism</li> </ul>
<b>Indirect Employment Creation</b>	<ul style="list-style-type: none"> <li>- Restaurant staff, physicians, sanitation workers: gain more incentives than regular factory workers</li> <li>- Security officers: prone to bribery</li> </ul>

As mentioned above, KIC has brought greater importance to the indirect economic effects which promote long-term economic growth to North Korea. In order for North Korea's economy to grow in longer periods of time, it must develop its human capital. KIC has been critical in enhancing the productivity of the North Korea's labor. With more South Korea's capital and technology, the training programs, enhancement of the welfare have incremented the productivity levels of the North Koreans to an average of 18.4% per year. Moreover, the technology and the knowledge development is something which the North Korean government has been pursuing for its economic growth. With high technological investment and enhanced training sessions which South Koreans provide, there has been more technology and knowledge transfer within Kaesong.

Moreover, empirical studies proved that the role of females in the labor force is crucial in the long-term economic development since their participation brings significant macroeconomic gains. The number of females working in KIC increased ever since its initial development. In addition, increase in female employment not only impacted the social values by weakening the outdated patriarchal and male-dominated culture but also enhanced the welfare of women by creating daycare and educational centers in Kaesong. KIC also influenced the region by bringing in both economic growth and introducing tourism into the once discriminated and underdeveloped city. KIC moreover created indirect employment opportunities to the North Koreans. If direct employment refers to employment that is physically related to the direct production, indirect employment includes the ones who support the process such as those who participate in quality control. In Kaesong, other than the direct employment of working in the factories, there were

various occupations which were created to support the complex

Finally, KIC is critical for the North Korean government in that it serves as an experimental zone for economic reforms. This factor is directly relevant to the practicalities of the North Korea's economic policies and is moreover highlighted by the most recent regime. The demonstration effect shows how a SEZ can perform as the most significant tool to bring in foreign capital and investment. The success of SEZs would be critical for such a closed and hermit country like North Korea. Among the SEZs in the North, KIC is the only zone which was considered to be successful. With the previous SEZs, such as the Rajin-Sonbong Economic zone, which all turned to become failed examples, the role of KIC is evermore emphasized. It served not only to bring in capital and investment, but also to test out economic reform policies which would aid North Korea's long-term economic growth. Likewise, with the regime focusing more on economic development, the success of the KIC delivering both direct and indirect economic benefits to North Korea is imperative in becoming the forerunner for other SEZs.

## **VII. Conclusion**

Previous chapters have demonstrated how much the KIC has brought direct and indirect economic gains to North Korea. Even though the North decided to shut down the complex twice in the years 2009 and 2013, due to the economic benefits, the North Korean government had to make the decision to reopen both times. Among the direct indicators, the FDI was more influential in the decision to restore the complex in 2009. On the contrary, government revenue, mainly from the rents and taxes had a more impact during the second shutdown in 2013. The earnings from wages did increase throughout the periods but was not as significant when compared to the overall trade. However, the hard currencies earned from KIC were still valuable and substantial for the North to reopen the complex. The most compelling indicator would be the export growth since KIC emerged to become the only outlet for North Korea to export to other regions. Despite the export rate decreasing, the South Korea's FTAs with ASEAN and India impacted the reopening in 2009, whereas the FTA with China was an influential factor in 2013.

All in all, the direct indicators were significant to provide imminent benefits but were limited in bringing immense changes to the overall North Korean economy. However, for a country which is blocked and restrained from any foreign investments and currency, the economic gains especially from export growth and the hard currency earned from taxes, rents and wages were as conclusive and compelling to influence the government's decision to reopen the complex for both periods.

On the contrary, indirect economic factors of KIC were critical in delivering long-term economic growth to actually influence the North Korea's economy. The KIC was able to enhance the skills and productivity of the North Korean workers as well as transfer technology and knowledge to the North. Along with the increase of female employment, the zone enhanced all the indicators which proved to bring continuous economic growth. Moreover, indirect employment opportunities were created and the city was able to flourish the region ever since the operation of the KIC. Yet, the most important indirect factor would be the demonstration effect which the KIC has on North Korea since its success is in line with the current Byungjin policy. The KIC would be crucial in setting the principals and outlining the practices for the other SEZs in North Korea.

After looking into both direct and indirect factors, it can be concluded that the KIC delivered both imminent and long-term economic benefits to North Korea. The direct effects were limited to affect the overall North Korean economy but were still influential to the government to reopen the complex. The indirect effects, on the other hand, had a more significant impact to encourage long-term economic growth in the future of North Korea.

## **1. Limitations and Further Studies**

This research provides an analysis of how much the KIC has an economic value to North Korea. While the direct and indirect indicators, provided by the World Bank, provide a guideline to evaluate the economic effects of the SEZ, they also have its limitations for this study. First, specific indicators have their limitations as not all of them were applicable to fully analyze the situation in North Korea. As mentioned previously, the indicator direct employment creations is not discussed in this research as the employment arrangements are under the socialist planned economy. Of course the number of North Korean workers increased throughout the years. However, in theory, this just meant that they were relocated from other jobs in other regions, not from being unemployed to employed. In order to discuss the significance of the employment in KIC, future studies should examine the economically active population in depth and evaluate the realities of the employment situation in North Korea via surveys and interviews. On the contrary, the indicator indirect employment creations is more admissible in KIC since it focuses more on the supporting jobs which were newly created due to the creation of the zone. Yet, the exact figures and numbers are also difficult to estimate and can be only inferred through interviews and testimonies.

In continuation, the second limitation is that it lacks in data to fully analyze the influence of several indicators in contrast to the overall North Korean economy. For example, for the indicator government revenue, without having the full data and information of the North Korean government's earnings, it was

challenging to estimate how significant the revenue acquired from the KIC was to the general government revenue. Such lack of data and information is even more challenging when measuring indirect effects such as indirect employment creations and regional development

The gateway to KIC has been closed again since the beginning of 2016. However, this shut down is distinctive from the previous two shut downs in that it was led by the South Korean government. This time, the South unilaterally decided to close the complex as a severe punishment for the North Korea's fourth nuclear test and the satellite launch in early 2016. KIC previously managed to survive from restrictions and sanctions despite the North's numerous nuclear tests and the Yeonpyeong island and Cheonan incidents. However, the South needed to take a hard stand by cutting off all of its connections and pressuring the North to halt its nuclear development.

There were various arguments regarding this closure as some argued that KIC served as a source of desperately needed hard currency for the North to develop its nuclear and missile capabilities. Moreover, they underline that the shutdown would have an impact that might go beyond sanctions imposed by the international community. Others argue the opposite saying that the closure only affected the South Korean companies in KIC. In like manner, the findings of this research also provide policy recommendations by inferring to the direct and indirect economic benefits KIC brought to the North during its operation.

Due to its closure, the North will not be receiving any more of the economic gains from KIC, mainly hard-currency. These benefits impacted the



North Korean government's decision to reopen when they chose to close the complex in 2009 and 2013. However, whether the recent closure will affect the North to change its behavior is questionable. If the main policy goal of the shutdown was to further inhibit the influence of the KIC in promoting economic development, then the current shutdown would be effectual in that the complex would not further deliver imminent economic earnings such as hard currency as well as promote long-term economic growth. On the other hand, the South Korean government's objective to freeze the nuclear weapons is debatable. The South Korean government should take into account not only the direct effects but also the indirect economic effects that KIC had to North Korea. The KIC was more than just an instrument to bring in direct gains of hard currency. Its role as a successful experiment case was also critical in delivering the ripple effects to the North Korea's new SEZs and overall economic growth. Through further development of the KIC, the North would be willing to open up to more liberalized economic policies and would come out to the international community for more economic cooperation.

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## Appendices

### Appendix 1. Timeline of Important Events of the KIC

Date	Timeline
Aug 2000	Hyundai Asan and the North Korean government agree to develop 20,000,000 pyeong of land in Kaesong
Nov 2001	Enactment of Kaesong Industrial Complex Law
Dec 2002	North Korea certifies land-use rights of KIC for 50 years
Jun 2003	Launch of Phase 1 development
Jun 2004	15 companies to enter the complex
Dec 2004	First product made in KIC
May 2005	Completed Phase 1 of land development
Dec 2007	Created the Kaesong Industrial District Management Committee
Nov 2008	Cumulative total production reached \$500 million USD
Mar 2009	North Korea closes the border passage
Mar 2009	Hyundai Asan employee detained
Jun-July 2009	1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> round Inter-Korean meetings over KIC
Aug 2009	Freed the Hyundai Asan employee and restored border passage to KIC
Sep 2010	Cumulative total production reached \$1 billion USD and cumulative export value surpassed \$150 million USD
Jan 2012	Number of North Korean workers exceeded 50,000
April 2013	North Korea announced to ban all traffic from KIC
May 2013	All South Koreans forced to leave the complex
June 2013	North called for talks with the South
Aug 2013	Two Koreas signed the Five-point Agreement on Normalization of the KIC
Sep 2013	After 7 inter-Korean meetings, KIC was officially reopened

Source: ROK Ministry of Unification



## Appendix 2. Tax Collected in KIC

Category	Taxpayer	Baseline	Tax Rate	Tax Benefit
<b>Individual income tax</b>	Individuals who earned income by staying in KIZ for more than 182 days	Levied when the balance of the monthly income from labor remuneration after a deduction of 30% thereof is US \$500 or more	4-20%	Income exemption under agreement between the South and the North
<b>Property tax</b>	Permanent owner of the building as of January 1 of each year	Local market price at the time of acquisition thereof	0.1-1%	New building owners are exempt for 5 years starting from the date of registration.
<b>Inheritance tax</b>	A person who has inherited any property in the KIC	Amount of inheritance after deduction of the applicable expenditure stipulated by tax regulations	6-25%	
<b>Turnover tax</b>	Enterprises in the production sector	Sales proceeds of the products	1-15%	Exempt from taxation when the manufactured products are shipped to South Korea or other countries

<b>Business tax</b>		Enterprises engaging in service sector	Charges for services from construction and finance and income from the delivery of construction works	1-7%	Enterprises producing and supplying energy exempt from taxation: Electricity, gas, water supply, roads and water works and sewage
<b>Local tax</b>	<b>City management tax</b>	Enterprises or individuals who earned income in the KIC	Monthly payroll or monthly gross income	0.5%	
	<b>Motor vehicle use tax</b>	Enterprises or individuals who own a motor vehicle in KIZ as of January 1	Type of vehicle	US \$3-60	Exempt from taxation when the motor vehicle has not been used for 60 consecutive days or longer

Source: ROK Ministry of Unification, Code of the Act and Regulations for the Kaesong Industrial Zone 2009

## 국 문 초 록

개성공단이 북한에 대해 갖는 의의:

2009년과 2013년 중단 사태의 경제적 함의를 중심으로

서울대학교 국제대학원

국제학과 국제협력전공

윤하영

북한은 외자유치를 비롯한 경제성장을 위해서 경제특구를 지정하여 운영하고 있다. 그 중 개성공단사업은 남북경협사업으로써 남북한이 공동으로 운영하여 경제협력의 유일한 수단으로 여긴다. 그러나 개성공단은 2009년과 2013년 북한이 일방적으로 출입을 제한 및 운영 자체를 중단하여 많은 우여곡절을 겪었으나 두 경우 모두 폐쇄되지 않고 모두 재가동이 되었다. 이에 본 연구는 북한 정부가 개성공단을 두 번씩 중단한 이후 다시 가동을 한 이유를 이해하고자 하였다. 북한은 우선 개성공단을 통해 경제적 이득을 취할 수 있었는지 확인하고 직접적, 간접적인 경제 효과 지표들을 통해 개성공단의 재가동 이유를 분석하고자 하였다. 직접적 경제효과 지표들은 2009년과 2013년 중단시기로 나누어 비교 분석 하였고, 간접적 경제효과 지표들은 장기적인 속성을 갖고 있는 것을 고려하여 개성공단 운영 이후 전체 기간을 두고 분석하였다. 개성공단은 북한 경제에 직접적, 간접적인 효과를 미치고 있으며 개성공단에서 발생한 경제적 이득으로 인하여 2009년과 2013년 다시 가동 한 것으로 분석된다.

주제어: 개성공단, 경제적 효과, 경제특구, 북한 경제발전