Chinese anti-dumping measures against Republic of Korea

By

BUTH, Dadiya

THESIS

Submitted to

KDI School of Public Policy and Management

In Partial Fulfillment of the Requirements

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ABSTRACT

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By

BUTH DADIYA

Many countries around the world began using anti-dumping measures once again after 2011 and in recent years, it was well-known that People's Republic of China (Henceforth China) was notorious for this kind of measures and at the same time, this country also emerges as Republic of Korea's (Henceforth Korea) important trading partner. Due to the significance of trade between these two large economies, it is crucial to study the relationship between anti-dumping measures and trade flow between these two countries. Consequently, this study uses Poisson pseudo-maximum-likelihood (PPML) to investigate the impact of Chinese anti-dumping measures on import quantity and import value from Korea. The empirical finding in this paper indicates that Chinese anti-dumping measures have adverse effect on trade flow from Korea. Statistically, Chinese import quantity and import value from Korea decline by 18% and 13% respectively while Chinese anti-dumping measures are in place.

Key words: Dumping, Anti-dumping measures and Trade flow

DEDICATION

To my mother, Uy Davy

ACKNOWLEDGEMENTS

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CHAPTER ONE: INTRODUCTION

1.1. General information about anti-dumping

According to World Trade Organization (2017), "dumping is, in general, a situation of international price discrimination, where the price of a product when sold in the importing country is less than the price of that product in the market of the exporting country." However, the price in exporting country (normal value) is unknown in some cases so export price to a third country or constructed value including production cost in exporting country, administrative cost, selling and general costs and reasonable amount of profit are used instead of normal value for comparison with export price. Importing industries which suffer from this unfair trade practice can request their government to impose anti-dumping measures on dumped products. It is very crucial to note that these measures are intended to remedy trade injury in importing countries, not to protect domestic industries from their foreign competitors. Thus, government imposing anti-dumping measures must remove their measures when dumping has stopped. Also, WTO members are allowed to impose anti-dumping measures on dumped products if those members can prove three things: 1) dumping is occurring, 2) there is material injury in importing market, and 3) there is evident proving that material injury in importing market correlates with the occurrence of dumping (WTO, 2017).

1.2. Research problem and importance of the study

According to Bown and Crowley (2016), anti-dumping was considered as the most significant instrument of contingent protection compared with other instruments such as countervailing duties and safeguards based on frequency of use and import coverage. In addition, some other research findings also indicated that anti-dumping measures could disrupt trade flow between countries. Besedes and Prusa (2013) proved that anti-dumping measures could eliminate trade and it could increase hazard rate by more than 50%. Prusa (1996) utilized time series trade data to study the trade effect of anti-dumping cases. In his study, the finding indicated that there was 47% decrease in US imports from her trading partners which were subject to anti-dumping investigation during the first year for countries suffering from high anti-dumping duty. Also, Bellora and Jean (2016) proved that Chinese exports to European Union increased from 3.9% to 5.3% because there was decrease in anti-dumping duties and number of sanctions against China. On the other hand, it is undeniable that trade is very beneficial for both developed and developing countries. According to Asian Development Bank (2017), international trade can help both developed and developing countries accomplish some of the Sustainable Development Goals (SDGs). Despite the benefits that trade can provide, Davis (2009) and Nakgyoon (2016) claimed that some countries still utilized anti-dumping measures for either remedying trade injury or protecting their domestic industries and obviously, anti-dumping measures are detrimental to international trade. Realizing adverse impact of anti-dumping measures on trade, this paper is intended to specifically study relationship between anti-dumping measures and trade flow from Korea to China.

1.3. Objectives of the study and hypotheses to be tested

1.3.1. Specific objectives

a) To examine the impact of Chinese anti-dumping measures on import quantity from Korea

b) To examine the impact of Chinese anti-dumping measures on import value from Korea

1.3.2. Hypotheses to be tested

a) H_0 = Chinese anti-dumping measures do not reduce import quantity from Korea.

H_1 = Chinese anti-dumping measures reduce import quantity from Korea.

b) H_0 = Chinese anti-dumping measures do not decrease import value from Korea.

H_1 = Chinese anti-dumping measures decrease import value from Korea.

1.4. Structure of the paper

This paper is arranged into five chapters. The first chapter introduces general information regarding anti-dumping, research problem, importance of this research and study objectives. Chapter 2 reviews various literatures relating to anti-dumping measures. Research methodology and key findings will be discussed in chapter 3 and 4 respectively and chapter 5 concludes this paper.

CHAPTER TWO: LITERATURE REVIEW

2.1. Trade relation between China and Korea

After China reformed and modernized her economy in the late 1970s and established strong diplomatic relation with Korea, the two countries began to trade more with each other and they also diversified their exporting products. According to UN Comtrade, there was a sharp rise in exporting commodities, which was equal to $16.9 billion from Korea to China between 1989 and 2001. During the same period, commodities export from China to Korea also went up from $472 million to $12.5 billion. In addition, Korean economy encountered both positive and adverse effect caused by Chinese economic reform. On the positive side, Chinese market for Korean products grew larger due to the Chinese rapid industrialization. On the negative side, Korea also lost comparative advantage in many manufacturing industries to China because of the Chinese industrialization (Kim & Lee, 2009).

2.2. Overview of Chinese antidumping measures against Korea

According to International Bar Association (2010), some countries globally started to use anti-dumping measures more frequently after recent economic crisis. Particularly, China became one of the main users of these measures (Zhang & Zhou, 2016). In the context of Chinese-Korean trade relation, the two countries trade substantially with each other and in fact, China is Korean's third biggest trading partner (Kim & Lee, 2009). Despite the significance in this bilateral trade, China has been constantly initiated anti-dumping cases against Korea since 1997. These initiated cases results in 59 HS level products which are subject to Chinese anti-dumping measures (Bown, 2016). Furthermore, the empirical finding in this paper indicates that Chinese anti-dumping measures disrupt trade flow from Korea. Statistically, Chinese import quantity and import value from Korea decrease by 18% and 13%

respectively when China imposes anti-dumping measure on her trade flow from Korea. Obviously, this type of trade remedy has an adverse effect on Chinese import from Korea.

2.3. Empirical literature

There are some previous studies which put emphasis on the relationship between anti-dumping measures and trade flow. Utilizing trade flow data and data relating to anti-dumping measures, Nakgyoon (2016) studied the relationship between anti-dumping measure and import in US, EU, China and India and in his paper, it was found that imported products will be decreased by about 0.43% to 0.51% if there is 1% rise in anti-dumping duties (Nakgyoon, 2016).

Bellora and Jean (2016) employed trade flow data to examine relationship between anti-dumping and import from China to European Union (EU). The study indicated that there is decrease in anti-dumping duties and number of anti-dumping sanctions against Chinese exports when EU grants China market economy status. Statistically, Bellora and Jean (2016) proved that Chinese exports to EU increase from 3.9% to 5.3% due to the reduction of anti-dumping duties and number of sanctions.

Besedes and Prusa (2013) used random effects probit model and import data in U.S. from Q2-1990 to Q4-2006 to study relationship between anti-dumping action and trade. In their study, it was found out that anti-dumping measures can eliminate trade and it can increase hazard rate by more than 50%.

Vandenbussche and Viegelahn (2012) used trade flow data combined with data relating to anti-dumping measures to study the effect of anti-dumping measures on trade flow from China to India. In their paper, it was found out that Indian anti-dumping measures

reduce both China's export value and quantity sharply and suddenly (Vandenbussche & Viegelahn, 2012).

Vandenbussche and Zanardi (2010) employed annual trade flow data which covered many exporting countries and their trading partners adopting anti-dumping law to investigate relationship between anti-dumping and trade flow between new adopters of anti-dumping law and their trading partners. The study indicated that there is a heterogeneous impact of anti-dumping on volume of import across different sectors. They also proved that there is a decrease of 5.9% of import, which is equivalent to 14 billion US$, for new tough users of anti-dumping law (Vandenbussche & Zanardi, 2010).

Park (2009) used anti-dumping cases initiated from 1997 to 2004 combined with trade flow data to study relationship between Chinese anti-dumping investigation and trade. The result of the study indicated that anti-dumping investigation causes Chinese imports from named countries to decrease by at least 29.6% in the following year (Park, 2009).

Prusa (1996) utilized line item tariff code and anti-dumping duty for each of the 428 anti-dumping cases filed between 1980 and 1988 to investigate anti-dumping in US. The study showed that size of anti-dumping duty has profound effect on imports into United Stated. Prusa (1996) also found that there is 47% decrease in US imports from her trading partners which are subject to anti-dumping investigation during the first year for countries suffering from high anti-dumping duty.

CHAPTER 3: METHODOLOGY

3.1. Data collection

In order to study relationship between Chinese anti-dumping measures and her import from Korea, this paper utilizes data from three different sources. The first source is World Bank's Global Antidumping Database which comprises of anti-dumping cases globally (Bown, 2016). This paper utilizes 33 anti-dumping cases initiated by China against Korea for the period from 1997 to 2012. These 33 cases include 59 products at HS 6-digit level. Table 1 provides general information about the 33 Chinese anti-dumping cases against Korea.

[Table 1]

The second source is UN Comtrade Database which includes both quantity and value of trade flow for 70 reporting countries. To match with the above mentioned 33 anti-dumping cases, I extract Chinese import data which involves with the 59 HS products from Korea from 1992 to 2016. The third source is World Bank Open Data and for the purpose of data analysis in this study, I extract GDP and population of both China and Korea from 1992 to 2016 from this database.

3.2. Model

To consistently model trade flow, Vandenbussche and Viegelahn (2012) proposed Poisson pseudo-maximum-likelihood (PPML) instead of ordinary least square methodology (OLS) because PPML could account for zero trade flow as zero numbers would not drop out of the equation. In addition, Santos-Silva and Tenreyro (2006) stated that PPML could be used to model trade flow even though there was no zero trade flow. In their study, Santos-Silva and Tenreyro (2006) utilized Monte Carlo simulations to evaluate the performance of PPML and found out that PPML could produce a better result compared to OLS when there

was a presence of heteroskedasticity. Due to the fact that zero trade flow and heteroskedasticity are the main concerns in this paper, PPML is set up in order to study relationship between anti-dumping measures and trade flow from Korea to China. The equation is constructed as below.

$$IM_{it} = Exp(\alpha + \beta_1 AD + \beta_2 GDP_{ct} + \beta_3 GDP_{kt} + \beta_4 Population_{ct} + \beta_5 Population_{kt} + \mathcal{E}_t + \mathcal{E}_i + \mathcal{E}_{ckit})$$

The dependent variable IM_{it} represents Chinese import quantity and import value from Korea for product i in year t and this import data comprises of 59 products and these products are recorded at HS 6-digit level. The first independent variable is anti-dumping measure dummy which is equal to 1 when anti-dumping measures are in place after they have been imposed or equal to 0 when anti-dumping measures are not imposed on import. $\mathcal{E}_i$ is product specific fixed effect, $\mathcal{E}_t$ is time fixed effect and $\mathcal{E}_{kcit}$ is the error term.

Besides the main independent variable which is anti-dumping dummy, there are other controlled independent variables suitable for modeling trade flow as suggested by Vandenbussche and Zanardi (2010). Exporter's GDP_k controls for supply effect while importer's GDP_c control for demand effect. This paper also controls populations in both exporting and importing countries because it is generally accepted that big countries trade more than small countries if we look at absolute quantities. Product fixed effect is included in the equation in order to control individual effect which is unique to each product and time fixed effect is used to control for time variation which is very common to trade relationship.

CHAPTER 4: EMPIRICAL FINDING AND RESULT DISCUSSION

This chapter shows the impact of Chinese anti-dumping measures on her import from Korea using PPML with product fixed effect and time fixed effect and also discusses implicative findings. Table 2 illustrates the impact of anti-dumping measures on quantity of trade flow from Korea to China. When I control GDP and population in both exporting and importing countries and include product fixed effect and time fixed effect, Poisson estimation produces significant and negative coefficient, which is equal to -0.20 at 95% confidence interval. This corresponded to 18% reduction of Chinese import quantity from Korea when Chinese anti-dumping measures are in place.

[Table2]

Table 3 shows the impact of anti-dumping measures on value of trade flow from Korea to China. While controlling for GDP and population in both China and Korea and including product fixed effect and time fixed effect, Poisson estimation produces a significant and negative coefficient, which is equal to -0.14 at 95% confidence interval. This corresponded to 13% decrease in Chinese import value from Korea when Chinese anti-dumping measures are in place.

[Table 3]

Other controlled variables also have significant coefficients and expected signs. For population of China and Korea, the coefficients are positive and significant. It is as expected because it is generally accepted that the larger the country's population become, the more they trade with one another. Korean GDP has positive sign and significant coefficient and GDP of China has negative sign and significant coefficient. It is also as anticipated because

there is a general agreement that export positively correlates with GDP while import negatively correlates with GDP.

PPML shows significant and negative coefficient for both import quantity and import value. It can be stated that Chinese anti-dumping measures can disrupt her trade flow from Korea. On positive side, this trade remedy will allow both China and Korea to trade with each other fairly. Injured domestic industries in China will benefit from this trade remedy and gain bigger share of domestic market because Chinese anti-dumping measures will increase the price of dumped products and bring it up to normal value for like products destined for consumption in Korea. This will discourage Korean exporters to export their products to China at the dumped price. On negative side, China may employ anti-dumping measures in order to protect her domestic producers from Korean competitors. In the same way, this disguised trade remedy will increase the price of Korean products which are exported to China and create favorable environment for Chinese producers and pose threat to Korean producers.

Even though WTO members have significantly enhanced the rules regarding anti-dumping during Uruguay round, many countries nowadays still misuse the rules in order to protect their domestic industries. This happens because there are still loopholes such as the obligation to prevent misuse of anti-dumping rules and investigation procedures in agreement governing anti-dumping. To deal with this issue, WTO members have to seriously work on the revision and improvement of anti-dumping agreement in the next ministerial meeting in order to prevent some countries from exploiting the loopholes in the anti-dumping agreement.

CHAPTER 5: CONCLUSION

This paper uses Poisson pseudo-maximum-likelihood and trade flow data at HS product level to examine the relationship between anti-dumping and trade flow from Korea to China. The empirical finding in this study indicates that anti-dumping adversely affect trade flow from Korea to China. Statistically, Chinese import quantity and import value from Korea decrease by 18% and 13% respectively when Chinese anti-dumping measures are in place.

The empirical findings in this study are in consonance with other existing literature. Because Chinese anti-dumping measures can depress import from Korea, domestic producers who are injured because of dumped products from Korea will benefit from this trade remedy as they gain bigger share of domestic market. In worse situation, China may use anti-dumping to protect her domestic producers and create unfavorable trading environment and unfair competition for Korean exporters. This issue must be addressed at international level because at country level, individual governments will do their best to find ways to help their domestic industries and prioritize their own benefit. Hence, all WTO members have to come together and cooperate with each other in order to improve the legal framework regarding anti-dumping so that individual countries can be prevented from abusing anti-dumping law for their own benefit.

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Table 1. Chinese anti-dumping cases against Korea from 1997 to 2012

Product	Date of initiation	Number of HS products	Outcome
Newsprint in Rolls or Sheets	12/10/1997	1	Ad valorem duty
Polyester Film	04/16/1999	1	Ad valorem duty
Cold-Rolled Steel Sheets	06/17/1999	7	Price undertaking
Dichloromethane (Methylene Chloride)	12/20/2000	1	Ad valorem duty
Polystyrene	02/09/2001	1	No measure imposed
Lysine and its Esters and Salts Thereof	06/14/2001	1	No measure imposed
Polyester Chip	08/03/2001	1	Ad valorem duty
Polyester Staple Fibre	08/03/2001	2	Ad valorem duty
Esters of Acrylic Acid	08/03/2001	1	Ad valorem duty
Paper and Paperboard of a kind used for Writing	02/06/2002	2	Ad valorem duty
Phthalic Anhydride	03/06/2002	1	Ad valorem duty

Styrene Butadine Rubber (SBR)	03/20/2002	1	Ad valorem duty
Cold-Rolled Steel Products	03/20/2002	11	Ad valorem duty
Polyvinyl Chloride	03/29/2002	1	Ad valorem duty
Toluene Diisocyanate	05/22/2002	1	Ad valorem duty
Phenol (Hydroxybenzene) and its Salts	08/01/2002	1	Ad valorem duty
Pure MDI Polymeric-MDI	09/20/2002	2	No measure imposed
Chloroform (Trichloromethane)	05/30/2003	1	Ad valorem duty
Dispersion Unshifted Single-Mode Optical Fiber	07/01/2003	1	Ad valorem duty
Hydrazine and Hydroxylamine and their Inorganic Salts	12/17/2003	1	Duty if price falls under a given level
Unbleached Kraft Liner/Linerboard	03/31/2004	5	Ad valorem duty
Bisphenol-A (BPA)	05/12/2004	1	No measure imposed
Ethylenepropylenenonconjugated Diene Rubber	08/10/2004	1	No measure imposed

(EPDM)			
Disodium 5'-Inosinate Disodium 5'-Guanylate Disodium 5'-Ribonucleotide	11/12/2004	2	Ad valorem duty
Epichlorohydrin (ECH)	12/28/2004	1	Ad valorem duty
Spendex	04/13/2005	2	Ad valorem duty
Octanol (Octyl Alcohol) and Isomers Thereof	09/15/2005	1	No measure imposed
Bisphenol-A (BPA)	08/30/2006	1	Ad valorem duty
Acetone/Dimethyl Ketone or 2-Propanone	03/09/2007	1	Ad valorem duty
Dimethyl Cyclosiloxane or Cyclic Dimethyl Siloxane	05/28/2008	2	Ad valorem duty
Adipic Acid or AA	11/10/2008	1	Ad valorem duty
Terephthalic Acid	02/12/2009	2	Ad valorem duty
Solar Grade Polysilicon	07/20/2012	1	Ad valorem duty

Source: Global Antidumping Database (Bown, 2016)

Table 2. Pseudo-Poisson Maximum Likelihood (PPML) estimation: Impact of AD measures on the Chinese import quantity from Korea

	Dependent variable: Import quantity
Anti-dumping measures dummy (AD)	-0.20 *
Chinese GDP	-2.20 *
Korean GDP	1.72 *
Chinese population	7.01 *
Korean population	3.31 *
Product fixed effects	Yes
Year dummies	Yes
Number of HS products	59
Number of observations	1340

Source: Authors' estimates based on UN Comtrade and Global Antidumping Database (Bown, 2016)
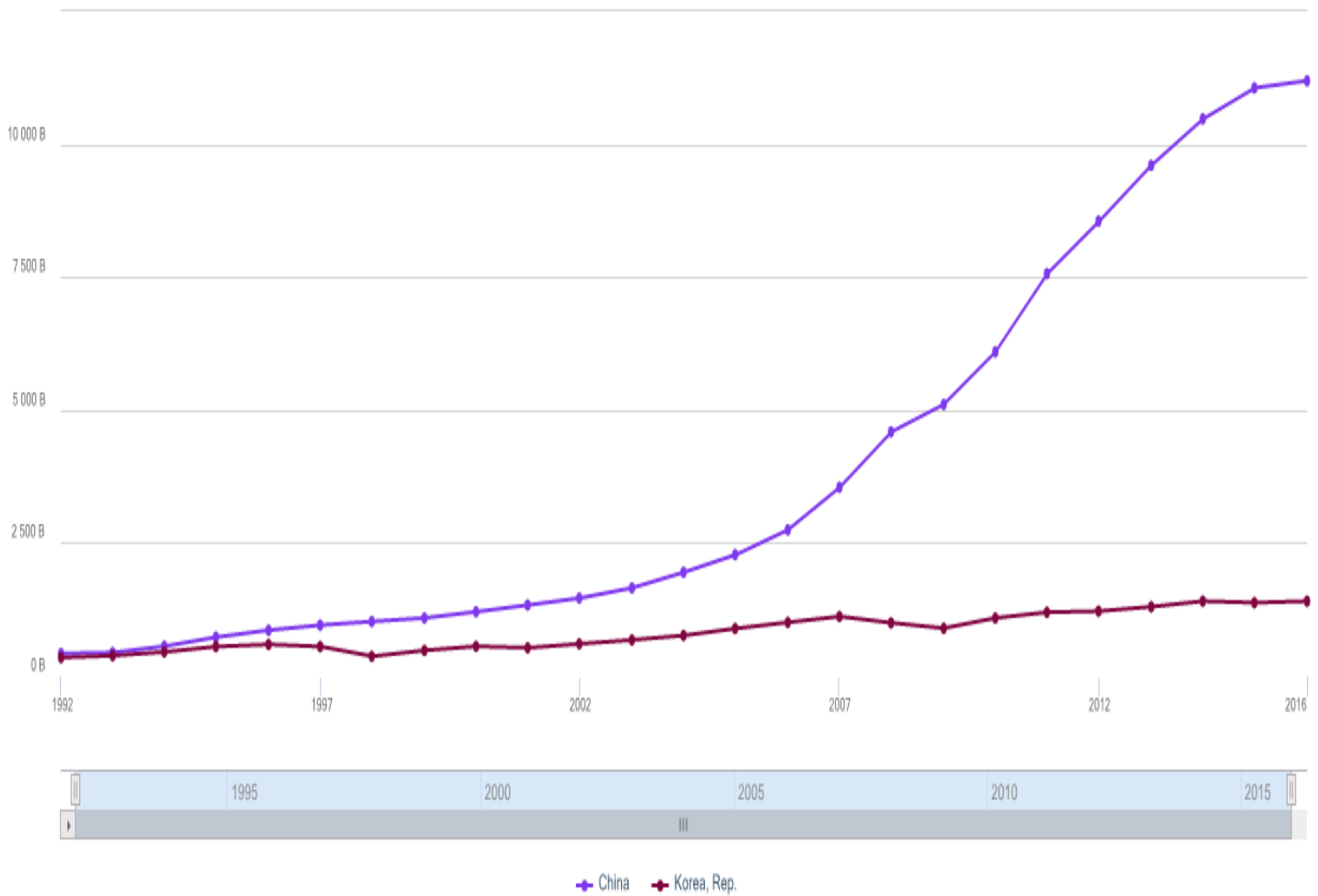
* Indicates significance at the 5% level

Table 3. Pseudo-Poisson Maximum Likelihood (PPML) estimation: Impact of AD measures on the Chinese import value from Korea

	Dependent variable: Import value
Anti-dumping measures dummy	-0.14 *
Chinese GDP	-1.33 *
Korean GDP	1.49 *
Chinese population	6.88 *
Korean population	4.29 *
Product fixed effects	Yes
Year dummies	Yes
Number of HS products	59
Number of observations	1340

Source: Authors' estimates based on UN Comtrade and Global Antidumping Database (Bown, 2016)

* Indicates significance at the 5% level

Figure 1. Annual GDP of People's Republic of China and Republic of Korea, in US dollars
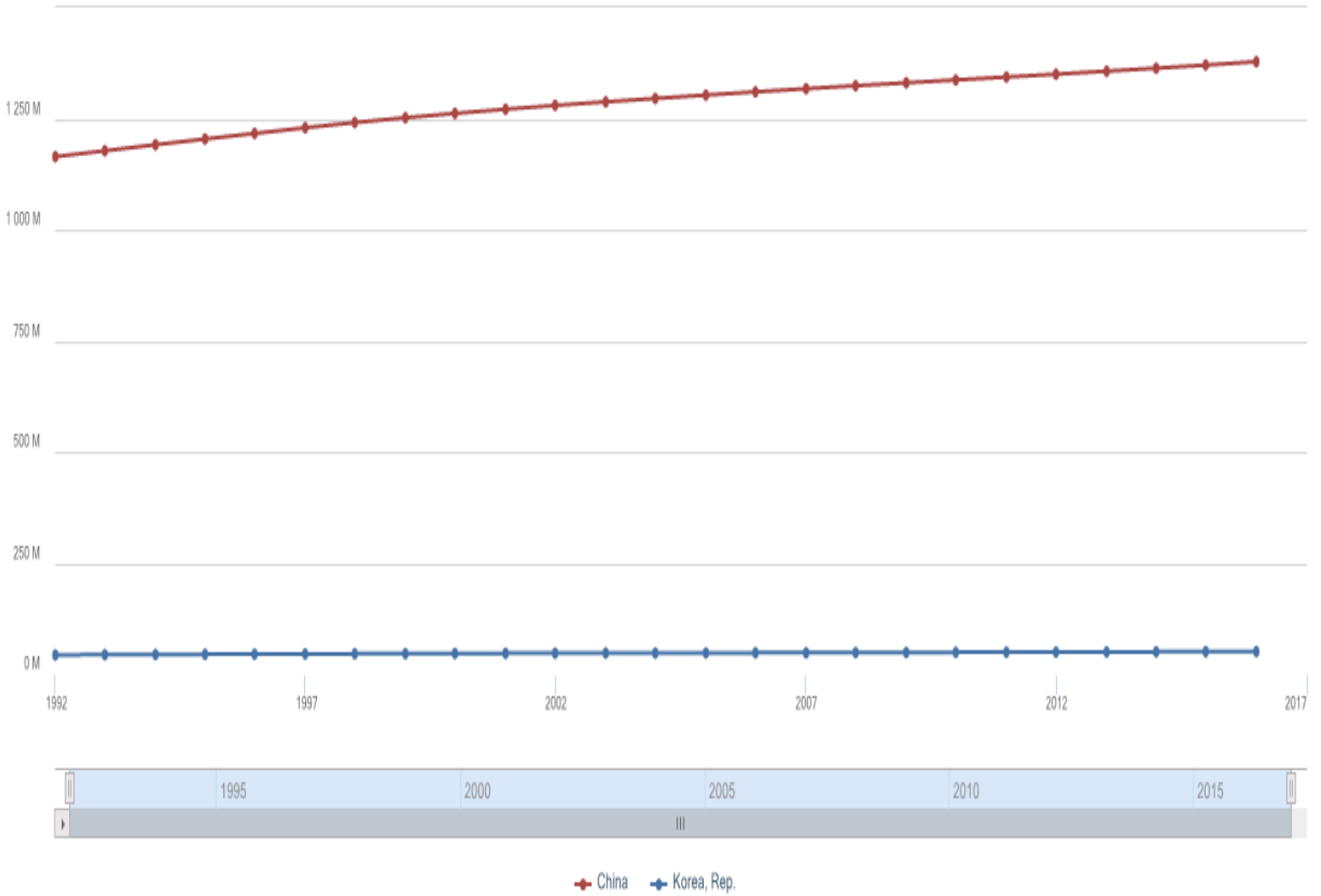

10 000 B

7 500 B

5 000 B

2 500 B

0 B

1992   1997   2002   2007   2012   2016

1995   2000   2005   2010   2015

III

→ China   → Korea, Rep.

Series : GDP (current US$)

Source: World Development Indicators

Created on: 11/25/2017

Figure 2. Total population of People's Republic of China and Republic of Korea

Series : Population, total

Source: World Development Indicators

Created on: 11/25/2017