

WORLD ECONOMY

UPDATE

November 6, 2015 | Vol. 5 No. 22

Evaluation of A Decade of Korea's FTA Policy

KIM Young Gui Research Fellow, Head of Regional Trade Agreement Team, Department of International Trade
(ygkim@kiep.go.kr)

ISSN 2233-9140

It has been 10 years since Korea's first FTA, the Korea-Chile FTA, went into effect. Bilateral FTAs have become more widespread at a swift pace due to stagnant WTO DDA negotiations since the 2000s. So as to correspond to changes in the commercial environment today, Korea, with its high dependency on trade, has shifted its trade policy direction from multilateralism towards bilateralism.

We analyze Korea's FTA policy based on the outcomes of recent bilateral FTAs, in terms of achieving policy objectives. While many previous studies mainly focused on trade impacts under bilateral FTAs, this study analyzes the overall economic impact of FTAs in terms of growth and welfare, as changes in bilateral trade may affect global trade and the general economy in a variety of ways.

Analyzing FTA outcomes in terms of bilateral trade can be misleading. Through an FTA, the trade balance between the two countries involved can be exacerbated or improved. However, a deterioration in trade balance after an FTA comes into effect does not necessarily mean that the FTA negatively impacts the economy. We should take potential trade diversion effects into consideration, for an FTA provides preferential treatment to the partner country. In addition, intermediate goods imports from the FTA partner country are likely to increase in order to meet the rules of origin provisions for receiving a preference. We therefore need to consider the changes in total net exports induced by bilateral trade with FTA partners.

On the other hand, we should note the positive role of imports under FTAs. Increase in import extensity would expand the scope of consumer choice (love of variety). In addition, as prices of imported goods fall, disposable income and the consumption of domestic goods as well as imported goods increase brings a positive impact on the overall economy.

In order to analyze the overall effect of FTAs, we adopt the Computable General Equilibrium (CGE) approach. With a CGE model, the macro economic impacts of FTAs can be calculated taking into account the complicated interactions among economic agents and industries. We use the GTAP model and the GTAP database Version 7.1 (reference year is 2004, in which Korea's first FTA came into effect). We reclassified 112 countries/regions in the original database into 8 regions of FTA partner countries (Chile, Peru, ASEAN, USA, EU, EFTA, Turkey, and India).

From 2004 to 2014 we trace the effects of FTA by year, and focus on the effects of bilateral trade and investment flows, by individual FTA, on Korea's economy. There is considerable previous research about the effects of FTA on bilateral trade and investment, depending on different estimation models and methods. In this study we use a regression approach in order to control various factors such as each country's economic situation or trends in bilateral trade. In particular, the modified gravity model is adopted by adding a FTA dummy variable. The dependent variable is imports from the FTA partner country and explanatory variables are dummy variables of the FTA, sharing border, common language, and inland.

There are some empirical issues: unobserved heterogeneity, potential endogeneity of FTA,

and a zero trade problem. To take these problems into consideration, we (i) use partner country and year fixed effects model, (ii) test the endogeneity of the FTA by using instrumental variables (IV) suggested by Magee (2003), Baier and Bergstrand (2002, 2004, 2007), Baier, Bergstrand and Egger (2006), (iii) apply the Pseudo Maximum Likelihood (PPML) estimation methods along with the ordinary least squared method.

According to the results, the estimated effect of an FTA depends on model specifications and estimation methods. Imports from Chile, Singapore, EFTA, ASEAN, EU under FTAs are significant, regardless of models and data sets. Exports to Chile, the ASEAN, India, and Peru are positively affected by FTAs, while exports to other FTA partners seem not to be robust to model specifications. One possible explanation for the unstable results would be the insufficient sample size. We collect yearly trade data, so the number of observations for some recently effectuated FTAs is too small.

In a CGE model, bilateral trade amounts are endogenous variables which are determined by reasonable responses to changes in relative prices. To conduct a simulation giving shock to endogenous variables, we need to swap other exogenous variables with endogenous variables (in this case, bilateral trade amounts). Based on Kim et al (2014), we swap exogenous productivity shock and tariff changes with bilateral trade.

To analyze the effects of foreign direct investment (FDI) through FTAs, we follow the approach suggested by Kim et al. (2014) where the authors calculate the degree of changed risk premium for explaining changes in FDI. Because the US and EU account for about 21.21% and 25.08% of Korea's total FDI respectively, we focus on the effects of

Table 1. Estimation results of FTA impact on bilateral trade

Dependent variable	Import effects					Export effects				
	Ln (IM)		Ln (IM)>0	Ln (IM)	Import	Ln (IM)		Ln (IM) > 0	Ln (IM)	Import
Estimation method	Fixed effects		Fixed effects	IV	PPML	Fixed effects		Fixed effects	IV	PPML
Chile	0.383	0.412	0.412	0.316	0.690	0.327	0.767	0.355	1.660	0.694
Singapore						0.306		0.338	0.728	
EFTA		0.081		0.145	0.354		0.903		0.770	0.337
ASEAN					0.075	0.192	0.400	0.202	0.256	0.482
India		0.075	0.057		0.234					0.050
EU						0.206		0.202	0.523	
Peru	0.314	0.363	0.358	0.803	0.510	0.255		0.215	0.762	
USA						0.134		0.135	0.186	0.023
additional control		tariff					tariff			

Note: All estimates in the table are statistically significant at the 1% level.

Source: Author's estimation.

FDI from the Korea-US FTA and Korea-EU FTA on Korea's economy. According to a difference in differences (DID) analysis, the Korea-US FTA and Korea-EU FTA increase total FDI by 0.71% and 2.77%, respectively.

We compute how much risk premium should be decreased to induce FDI by 0.71% and 2.77%.

Table 2. Effects of FTA on FDI

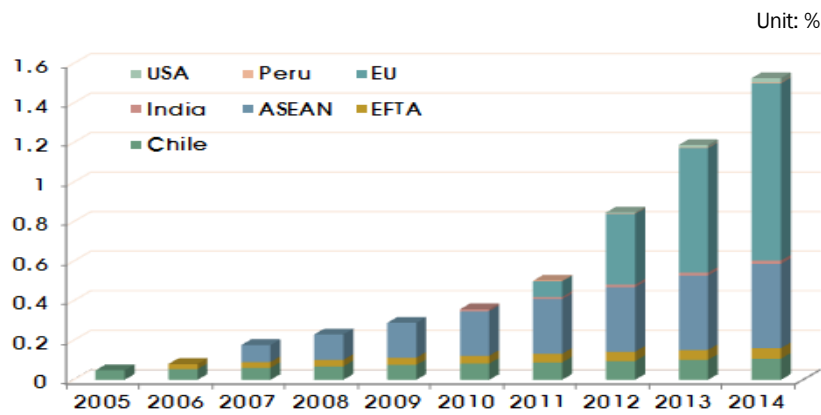
	From FTA partners		From the world		From FTA partners	From the world	FTA effect
	Growth rates before FTA (A)	Growth rates after FTA (B)	Growth rates before FTA (C)	Growth rates after FTA (D)	Changes in growth rates (B-A)	Changes in growth rates (D-C)	[(B-A)-(D-C)]
US	26.48	25.43	9.21	4.22	-1.05	-4.99	3.94
India	40.98	2943.23	0.04	6.72	2902.25	6.67	2895.58
EU	-3.39	29.43	7.75	4.35	32.82	-3.4	36.22
ASEAN	14.05	30.26	18.05	4.98	16.21	-13.07	29.27

Unit: %p

The growth effect in the EU shows the highest results, followed by 0.9% growth and an additional 0.43% and 0.11%, in the ASEAN and Chile respectively. In addition, by comparing the overall growth effect of FTA on

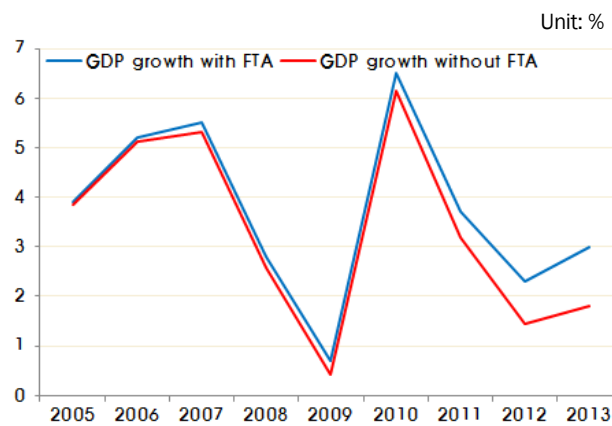
total economic growth in 2013, the growth impact of FTAs accounted for 1.19% among 3% of total economic growth in Korea. This implies that FTAs support economic growth in Korea.

Figure 1. Economic growth effects of FTAs



Source: Author's estimation.

Figure 2. Economic growth rates and the effects of FTAs



Source: Author's estimation.

While economic growth rates from the Korea-Chile FTA was 0.048%, Korea's total economic growth rates was 3.9% in 2004. The sum of economic growth rates through the seven FTAs was 1.19% and total growth rate was 3% in 2013. This implies that Korea's

economic growth rate would be quite lower without FTAs. In particular, Korea, as one of the most open economies in the world, could sustain positive growth rates due to FTAs such as the Korea-ASEAN FTA, despite the trade collapse during the global financial crisis. **KIEP**