

The Recent Drop and Recovery of Korean Exports: Structural and Cyclical Aspects

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1. The short-term and long-term trends of Korean exports

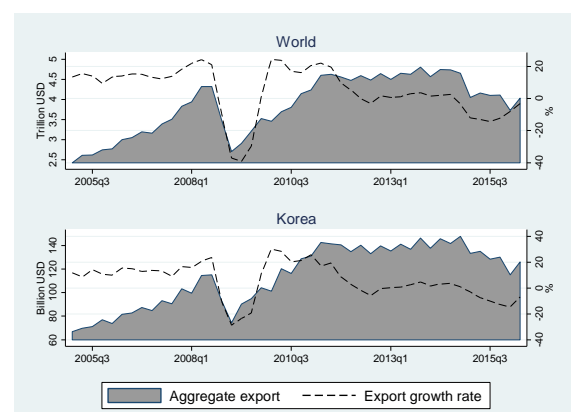
Korean exports seem to be recovering from the long tunnel of negative growth that continued for 20 consecutive months. The negative month-on-month export growth rates turned positive in November 2016, and in February 2017, Korean exports grew by 20.3 percent.

Notwithstanding, it is too early to predict whether Korean exports will continue to show strong growth in the future. The long-term trend of Korean exports has been unusually eventful in the last decade, and both cyclical and structural components lie behind it. Thus, it is important to interpret the recent exports statistics with a long-term perspective. This report closely observes the last decade's export growth of Korea, and analyzes both cyclical and structural aspects of the trend.¹

Figure 1 presents the last decade's export trends of the world and Korea in terms of level

and growth rate. Unlike the monotonous growth that continued until the global financial crisis of 2008-09, the more recent trend in global export has been marked by an unprecedented collapse that accompanied the global financial crisis, strong recovery from the collapse, prolonged slowdown, and another drop. Currently, the world exports show another recovery from the last drop again. The trend of Korean exports is surprisingly similar to that of the world, which demonstrates not only the fact that international trade is more integrated now but also why the trend of Korea's export is called a proxy for the world.

Figure 1: Export Trends of the World and Korea in the Last Decade



Sources: International Monetary Fund, CEIC database

¹ This report summarizes the KIEP Working Paper titled "Anatomy of the trade collapse, recovery, and slowdown: Evidence from Korea," which is forthcoming in May 2017.

Notes: Own calculation of the author. The left axis is the level of exports in USD, and the right axis is the quarter-on-quarter growth rate of exports.

Table 1: Division of the long-run Korean exports trend into 6 sub-periods

Name	Period	Average Export Growth (%)
Pre-crisis	2006q1-2008q3	15.2
Collapse	2008q4-2009q2	-20.9
Recovery 1	2009q3-2012q1	15.1
Slowdown	2012q2-2014q4	0.9
Drop	2015q1-2016q1	-9.5
Recovery 2	2016q2-2016q4	-3.4

Source: Export statistics from the Korea Customs through Trade Statistics Service

Notes: Own calculation of the author. Average export growth refers to the average quarter-on-quarter export growth rate of each period in percentage.

Table 1 lists the 6 sub-periods of the long-run Korean export trend, and the average month-on-month growth rates of each period. The Great Trade Collapse, during which the average export growth rate was -20.0 percent in Korea, has surprised the world, although most economies quickly recovered from the collapse. During the trade slowdown period, Korean exports virtually plateaued, and then the export growth rate dropped to -9.5 percent on average until early 2016. Analysis on the structural and cyclical aspects of the recent slowdown, drop, and recovery is essential for understanding and predicting the direction of Korean export trends in the future.

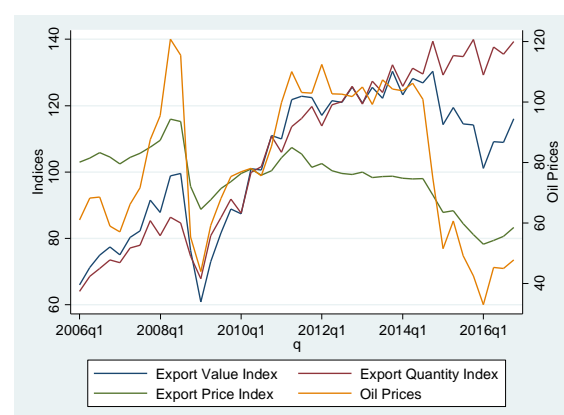
2. Cyclical aspects of trade drop in 2015

Korea's recent drop and recovery of exports in 2015-16 appear to be influenced by the exceptionally low oil prices and their rebound. Traditionally, Korean export prices have a

close relationship with oil prices. As Figure 2 shows, however, oil prices dropped so low in late 2014 that the export value index started diverging from the export quantity index. At the industry level, both export and import prices of relatively homogenous goods, such as chemical products, primary metal products, and coals and petroleum products, fell deeper than differentiated products. Such a pattern confirms that the plunge in oil prices drove down export prices, and, in turn, the total export volume, while the export quantity steadily grew ever since trade recovered from the Great Trade Collapse.

Oil prices hit the bottom in February 2016 at 30.6 dollars per barrel, and they have bounced back to reach 52.6 dollars per barrel in January 2017. Korean exports obviously have accompanied the trend of oil prices.

Figure 2: Export value index, export quantity index, export price index, and oil prices



Sources: Bank of Korea, Korea Statistical Information Service

3. Structural aspects of trade slowdown after 2012

1. Weakened trade-income elasticity

Among the possible causes of the trade slow-

down, trade economists mostly agree about the China factor: up to the mid-2000s, as the Chinese economy integrated into the world as the factory of the world, international trade grew faster than the world GDP. As the economy is rebalancing, however, to focus on meeting the domestic demand, trade through global value chains seems to be slowing down. China's yearly GDP growth rate in 2002-11 was 10.6 percent, but 7.4 percent in 2012-15 on average. The International Monetary Fund expects that the growth rate of China in 2020 will be 5.9 percent.

I estimate the trade-income elasticity using the error correction model to measure how the responsiveness of international trade is shifting and to find evidence of the China factor. The trade-income elasticity measures how much an economy increases its imports from the world (or from a country) when its GDP grows by 1 percent. Table 2 presents the estimated long-run trade-income elasticities of the world and China. I report the results for two economies: one is the world, the other is China. For each economy, I separately measure how much an economy increases imports from the world and imports from Korea in response to 1 percent increase of its GDP. The long-run trade-income elasticity of the world for imports from Korea fell from 2.354 before the financial crisis to 1.052 after the crisis. The world's elasticity for imports from the world also fell from 2.186 to 1.133. China's elasticity fell even deeper: from 2.892 to -0.082 for imports from Korea and from 2.275 to -0.255 for imports from the world. Thus there is strong evidence that, after the global financial crisis, the world demands less imports when its income grows, and such pattern is similar to that of China. The estimated elasticity of EU and US are decreasing, but their patterns are not as similar to the world's trend as China's is.

Table 2: Trade-income elasticity of the World and China

Economy	Imports from Korea		Imports from the world	
	2001q1-2008q4	2010q1-2016q2	2001q1-2008q4	2010q1-2016q2
World	2.354	1.052	2.186	1.133
China	2.892	-0.082	2.275	-0.255

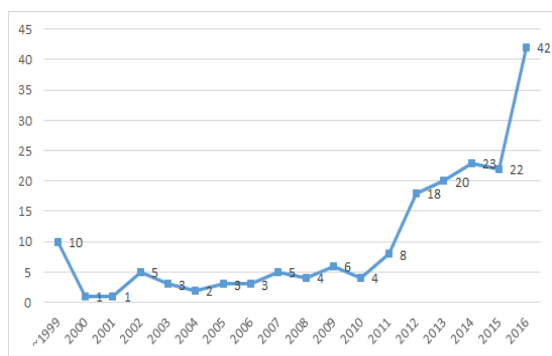
Sources: IMF DOTS, Bloomberg

Note: Own calculation of the author.

2. Proliferation in the number of protectionism measures

Scholars point to the increased protectionism measures across the globe as another culprit of trade slowdown. After experiencing an unprecedented trade collapse, nations across the world are turning to various measures of protectionism. The Global Trade Alert reports that, since 2010, the US initiated 993 adverse trade-related measures, ASEAN countries initiated 316 measures, and China initiated 154 measures. An example of these adverse measures is the Water Infrastructure Improvements for the Nation Act of the US, which was signed into law in 2016. The law requires the use of American iron and steel in certain water projects in the US. Also, Korean exporters are facing dramatically increased anti-dumping duties, countervailing duties, and safe-guards in effect. As in Figure 3, these rose from 4 in 2010 to 42 in 2016. The rates of anti-dumping duties in 2016 from India and the US against Korean steel products range from 19% to 59%.

Figure 3: Import restrictions against Korean products

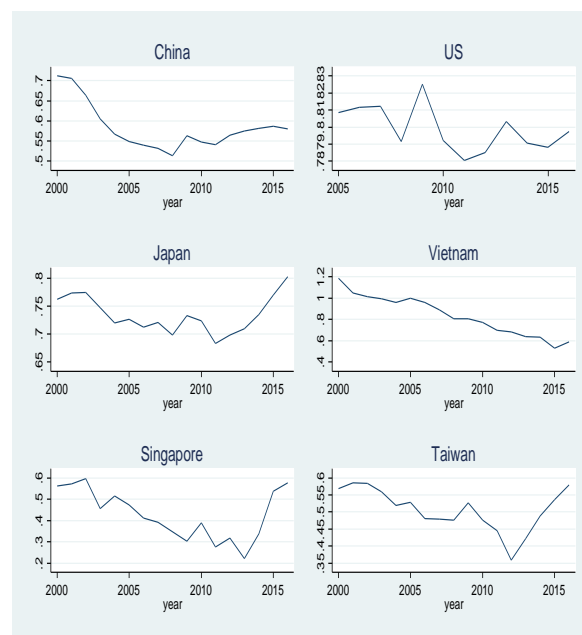


Sources: Lee, S. C. Chung, and H. Keum (2017), "Recent drop and recovery of Korean exports: structural causes and characteristics" KIEP World Economy Today, p.7 (in Korean). Originally from Korea International Trade Association and the Ministry of Trade and Industry.

3. Increased bilateral trade barriers

Did such protectionism measures fortify the international trade barriers compared to domestic trade? It seems so. I measure the bilateral trade barriers between Korea and its important trading partners from 2000 to 2016 in terms of the tariff equivalence. Figure 4 shows that the bilateral trade barriers are universally increasing since 2012 for all important trading partners of Korea except for Vietnam. The tightening trade barriers reflect the intensifying protectionism measures, such as non-tariff barriers and behind-the-border trade barriers, because the barriers have been increasing while international trade has plateaued.

Figure 4: Bilateral trade barriers between Korea and its important trading partners



Sources: IMF DOTS, Bloomberg, Bank of Korea, OECD Structural Analysis database

Note: Own calculation of the author.

4. Diminishing comparative advantage of Korean products

Although trade slowdown is a worldwide phenomenon, the comparative advantage of Korean products has been decreasing since 2012. The revealed comparative advantage (RCA) is greater than 1 if the share of Korean exports of an industry out of world exports of the industry exceeds the share of Korean total exports out of the world's total exports. The RCAs of 18 out of 22 Korean manufacturing industries have decreased in 2015 compared to 2012. Despite the overall downward trend, only one industry shifted its RCA status from comparative advantage to comparative disadvantage between 2012 and 2015, which means that most industries kept their comparative advantage status. Nevertheless, the decreasing trend of the index since 2012 brings up concerns since it indicates that the export slow-

down of Korean manufacturing industries is more severe than that of the world.

4. Specific trends

The share of exports by large firms out of total Korean exports has monotonously decreased since 2012. The share fell from 68.2 percent in 2012 to 62.7 percent in 2016. At the same time, the share of small and medium enterprises (SMEs) has increased. The share of intermediate goods exports has dropped the most: -8.1 percent compared to the previous year, among other goods categories in 2015. Interestingly, however, the intermediate goods exports by SMEs have increased. Also, in 2015, while exports of all goods categories to emerging countries have dropped, exports of capital and consumption goods to advanced countries increased by 3.1 billion and 2 billion US dollars, respectively. While exports to China and Japan dropped by 5.6 percent and 20.6 percent, exports to Vietnam surged by 24.4 percent. Although the total amount remains small, it is worth noting the rapid growth of digital exports, almost doubling every year since 2013.

5. Conclusion and policy implications

The export trend of Korea in the last decade closely moved with the world trade, experiencing initial collapse, slowdown, another drop, and recovery. This report sheds lights on the cyclical aspects of the recent drop and the structural aspects of the continued slowdown of Korean exports. The recent drop in 2015 apparently stems from extremely low oil prices, which drive down export prices while the export volume shows steady growth. Unlike cyclical aspects of the recent drop, the trade

slowdown that continued from 2012 has strong structural aspects such as decreased trade-income elasticity after the global financial crisis, a surge in protectionism measures across countries in terms of domestic regulations and import restrictions, and the fortifying of bilateral trade barriers since 2012. During the period of trade slowdown, the revealed comparative advantages of Korean manufacturing industries have weakened.

Therefore, in order to regain comparative advantage in Korean manufacturing industries, it is imperative to find ways to strengthen economic cooperation with Vietnam, whose trade barrier has been steadily decreasing, and other ASEAN countries, by further utilizing both the Korea-Vietnam and Korea-ASEAN free trade agreements, whose utilization rates are 36.0 percent and 52.3 percent as of 2016. Given the sound exporting performances of small and medium enterprises, it is crucial to encourage SMEs in manufacturing industries to transform their facilities into automated smart factories in preparation for the 4th industrial revolution. Also expanding the share of consumption goods out of total exports to advanced countries will facilitate exports as emerging economies are expected to grow modestly. Product-diversification is a necessary task for Korea to lower the influence of oil prices on its export prices. Customized export policies based on export destinations, firm sizes, product types, rather than one-size-fits-all policies, are called for strengthening Korean exports in the age of slow trade. **KIEP**