The Effects of Economic Openness on Korea's Income Distribution

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I. Introduction

As global liberalization has progressed over the past few decades, the income gap between countries has declined gradually but income distribution within the country has continued to deteriorate. As income inequality became a social issue, external causes such as free trade, immigration, and international capital movements began to attract attention. Although Korea is a significant beneficiary country of free trade, public support for free trade has weakened.

The official statistics on Korea's income inequality are known to be underestimated. The adjusted income inequality of Korea is lower than that of the United States, but somewhat higher than those of Europe and Japan. Although household survey, firm survey, and income tax data show differences in the level of income inequality, they show the same trends: inequality has risen since the mid-1990s, but has been declining or stagnating since the beginning of 2010.

The reasons for the changes in the income inequality in Korea include: ① changes in the structure of the exporting industry, ② slowdown in employment, ③ skill-biased technological change, ③ slowing of personal income growth, ④ proliferation of performance-based pay system, ⑤ population aging and changes in household composition.

## II. The Current Status of Korea's Income Distribution

To investigate the current status of Korea's income distribution, we decompose its income inequality index. First, we compare the shares of labor income and capital income based on Korea's National Account. The labor income shares fell after the financial crisis in 1997, and then continued to fluctuate. In 2016, they reached 72.2%, which is the same level as before the global financial crisis of 2008.

Second, we decompose the Gini index by using Korean household survey data. The distributional structure of Korea turned out to be determined mainly by labor income. Income inequalities of service workers and unskilled labors increased, while those of managers and professionals declined. The Gini coefficients of most industries except real estate and edu-

cational service increased.

By estimating the parameters (alpha, beta, and gamma) of the Champernowne–Fisk distribution, we examine the changes in Korea's income distribution. Alpha represents changes in median income, while beta and gamma indicate changes in the right tail (the rich) and the left tail (the poor) of an income distribution, respectively. The results show that inequality in the low-income group has grown worse rapidly and polarization has progressed.

Figure 1. Trends of the estimated parameters for Korea's income distribution
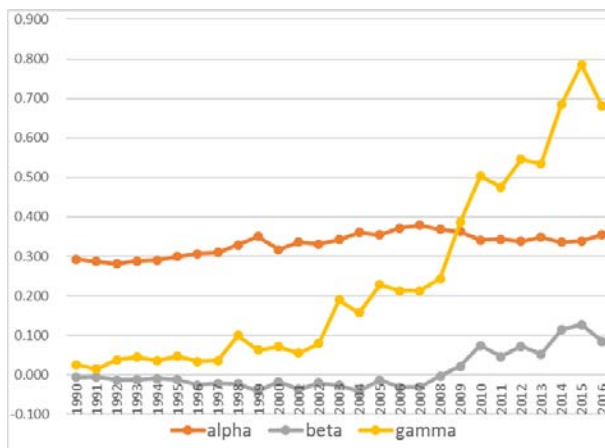
Note: Positive beta and gamma mean increase in income of the rich and decrease in income of the poor, respectively

III. Distributional Effects of Economic Openness

We analyze the effects of economic openness on income distribution with two different datasets: international country-level data and Korean industry-level data. First, we study the effects of economic openness on income inequality (measured by Gini index) and top 1%

as well as 10% income shares by using the data for 234 countries over the years of 1988-2016. According to the panel fixed effects analysis, trade liberalization increases the top 10% income share and improves income distribution through expanding export opportunities. Investment liberalization and technological progress deteriorate inequality because both increase the demand for skilled labor. Capital liberalization increases high-income shares, but its effect on overall income inequality is not significant. As international capital movement has been liberalized, the return on capital is improved and the poor faces less financial constraint at the same time.

Table 1. Effects of economic openness on income distribution (country-level analysis)

Dependent variable	ln(Gini index)	Top 10% income share
Estimation method	Fixed effects	Fixed effects
Trade/GDP	(-)	(+)
Export/GDP	(-)	
Import/GDP		
Trade with OECD /total trade		(-)
Goods trade/GDP		(+)
FDI/GDP	(+)	(+)
Chinn-Ito index		(+)
ICT trade/GDP		(-)
ICT export/GDP	(+)	
ICT import/GDP		
High-tech export / total export	(+)	
ICT capital/ total capital		
R&D investment/GDP		

Note: (+) and (-) indicate that estimates of the variables are statistically significant positive and negative values.

Second, we investigate the effects of economic liberalization on income distribution again by using Korean industry data. We consider four dependent variables (labor income shares, Gini index, parameter beta, and parameter

gamma), which are calculated based on market income. The estimation results are as follows. Export in the manufacturing sector increases labor income shares. Foreign investment increases capital return in manufacturing sector, while it increases labor income shares in the service sector. Export liberalization has positive effects only on the low-income group, while import liberalization affects positively both income groups. The more the competitiveness of a sector improved, the more positive effect this has on the low-income group. However, import liberalization deteriorates income inequality and excessive trade liberalization turns out to affect the poor negatively. Foreign investment in the manufacturing industry has negative effects on both the high-income and low-income groups, while FDI in the service industry increase income of the low-income group. The increase in R&D investment was negative for the high-income earners and positive for the low-income earners.

Table 2. Effects of economic openness on income distribution (Korean industry-level analysis)

	Manufacturing				Service			
	Labor Income share	Gini	beta	gamma	Labor Income share	Gini	beta	gamma
TSI		(-)	(-)	(+)				
trade/GDP	(+)		(-)	(-)				
import/GDP		(+)	(+)	(-)				
export/GDP	(+)			(-)				
TSI×trade/GDP	(+)			(-)				
(Trade/GDP)^2				(+)				
FDI /GDP	(-)		(-)	(+)	(+)		(-)	(-)
R&D/GDP		(-)	(-)	(-)				

Note: (+) and (-) indicate that estimates of the variables are statistically significant positive and negative values.

IV. Policy Implications

Based on the analysis above, we make some policy suggestions. It is necessary to supplement and segment the household survey data to better understand the current situation. The household finance and welfare survey could be a good example to supplement the information on top income group and financial income. Currently manufacturing is classified as a single sector, but the manufacturing industry must be subdivided by referring to other industrial classification systems.

In addition, we need to provide policy support for SMEs to participate in global value chain effectively. Even though the manufacturing industry is highly open and capital-intensive large firms account for considerable portion of total Korea's export, Korea's income distribution in the manufacturing sector did not deteriorate. Therefore, an increase in exports of SMEs will have a positive impact on employment, growth and income distribution because most SMEs are relatively labor-intensive and their portion in export is still small. For this, we should improve programs to support the export of SMEs and make an effort to increase the utilization of FTA by SMEs.

To make globalization inclusive, it is critical to implement a wide combination of policies. The effect that globalization has on an economy is similar to that brought about by technology development. Both make the overall economy better, but there are winners and losers. Long-lasting structural transformation occurs and less skilled workers are more vulnerable to this. As a result, political pressure against globalization policies increases. Therefore, labor policy to compensate the adjustment cost of globalization must be accompa-

nied with other policies.

The biggest adjustment cost is unemployment. Active labor market programs (ALMPs) are targeted to displaced workers and help them find new jobs easily in same or different industries. Passive policies complement ALMPs by providing protection to the unemployed and support for their job training or job seeking.

Enhancing labor mobility between regions is also important to relieve shocks, especially for the manufacturing industry. There are two solutions for this problem: moving laborers outside the city, or creating new jobs in the city. The former can be achieved through the supply of more housing and transportation infrastructure. The latter involves offering benefits to attract private firms or moving public institutions to create jobs. This category of policies includes considerations for the labor market, urban planning, and conflict control between regions. These agendas may seem far removed from trade and globalization but become more and more important when it comes to making globalization inclusive.

Conventional trade-related policy is also helpful. Many countries have trade-specific support program targeted to workers displaced by trade. The U.S. Trade Adjustment Assistance (TAA) and European Globalization Adjustment Fund (EGAF) are well-known examples. The workers need more job training because unemployment is caused by structural transformation, as in the case of technology development. Targeted programs can be more effective to relieve adjustment costs in theory, but empirical evaluations of these programs have yielded mixed results. The effect of trade can be direct or indirect, making it difficult to identify those who are laid off due to trade and those who benefit from targeted programs.

Therefore, trade-specific support programs must accompany the general labor market policies above to enhance their effectiveness. **KIEP**