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# Analysis of the Effects of Asset Price Changes on Economic Inequality and External Economic Variables<sup>1</sup>

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# I. Background and purpose of the study

The world economy has experienced rapid polarization and concentration of wealth that has progressed rapidly over the past 30 years. Wealth inequality has caused a variety of socio-economic changes, and economic inequality remains unresolved. Wealth inequality impacts not only economic growth, but also various socio-economic phenomena. It can also affect external economic variables in addition to domestic macroeconomic variables. Therefore, in regard to economic inequality, it becomes an important task to grasp the current status of Korea and analyze its determinants and effects.

In Korea, inequality in income and assets has persisted as a subject of social concern, and various policy measures are being sought to address the issue. It is necessary for the Korean economy, which is sensitive to external economic situations, to find a balanced solution when designing policies through research on the relationship between external variables and inequality.

### **II. Analysis results**

Korea's Gini coefficient was on a downward trend after 2011 but has remained stagnant since 2016. Even when compared internationally, Korea's Gini coefficient appears relatively high, with Korea ranking 28th among the 35 OECD member countries in 2018. The severity of concentration has been established as higher for assets than for income at the upper levels. In Korea, the top 1% occupies 11.3% of net assets and the top 5% occupies 28.8% of net assets. The top 10% owns 42.1% of net assets.

<sup>1</sup> This report is written based on Deok Ryong Yoon, Dong-Eun Rhee, and Jinhee Lee (2019).







Note: 0 = complete equality; 1 = complete inequality Source: OECD (2020), Income inequality (indicator), doi: 10.1787/459aa7f1-en (Accessed on 01 December 2020)

Traditional economic growth theory has shown that inequality can stimulate growth by motivating innovation and investment. In recent years, however, New Keynesian economists have raised the view that inequality can negatively affect education or human capital investment, which can undermine economic growth. The relationship between Korea's Gini coefficient and the rate of economic growth also seems to be close to the latter, meaning inequality is likely to hinder economic growth. In the relationship between inequality and consumption, it is known that the expansion of inequality, according to Keynes' theory of consumption, shrinks consumption. To confirm this, marginal propensity to consume was estimated for each income quintile. The marginal propensity to consume has continued to decline since the 2000s in all quintiles. In the 1990s, the marginal propensity to consume of the first and second quartiles increased significantly, resulting in an increase in the average marginal propensity to consume of all parts. However, in the 2000s, marginal propensity to consume in all quartiles from the 1st to the 5th quartile has been decreasing. By quintile, it can be seen that the higher the income, the lower the marginal propensity to consume. This proves the theoretical assumption that consumption relatively decreases as income increases. These results suggest that as wealth inequality intensifies, this will have a negative effect on the increase in gross domestic product and a decrease in gross domestic consumption will have a negative effect on economic growth again.



#### Figure 2. 5-year average trend of marginal propensity to consume by quintile (1990-2016)

Source: Authors' Calculation.

Next, an empirical analysis was conducted on how the effect of changes in asset prices on income inequality varies depending on the degree of progressiveness of fiscal policy. In the analysis, a fixed-effect model was estimated using annual panel data from 34 countries.

# $$\begin{split} GINI_{i,t} = \beta_1 HP_{i,t} + \beta_2 SP_{i,t} + \beta_3 IR_{i,t} + \beta_4 INFL_{i,t} + \beta_5 UNEMP_{i,t} \\ + \beta_6 GROWTH_{i,t} + \beta_7 GDPPC_{i,t} + \beta_8 X_{i,t} + \alpha_i + \lambda_t + \epsilon_{i,t} \end{split}$$

Where i = 1,2, ..., 34 represents the country and t= 1980, 1981, ..., 2017 represents the year. HP is the real home price change rate, SP is the real stock price change, IR is the long-term government bond real interest rate, INFL is the inflation rate, UNEMP is the unemployment rate, GROWTH is the GDP growth rate, GDPPC is the GDP per capita, and X is the other explanatory variables.  $\alpha_i$  is the country fixed effect,  $\lambda_t$  is the year fixed effect, and  $\epsilon_{i,t}$  is the error term.

As a result of the estimation, in countries with relatively weak progress in fiscal policy, rising housing prices and rising unemployment contributed to worsening income inequality, but in countries with strong progression, most factors did not affect income inequality. Korea maintains a fiscal policy that is less progressive than the average level of OECD countries. Therefore, if real estate prices continue to rise, this could contribute to income inequality.

	Full Sample	Low Progressiveness	High Progressiveness
$\triangle$ (Real House Price)	-0.621	2.787**	-0.373
	(-1.132)	(-1.078)	(-1.639)
△ (Real Share Price)	-0.097	-0.109	0.104
	(-0.321)	(-0.289)	(-0.374)
Real Interest Rate	-0.1	0.042	-0.11
	(-0.06)	(-0.069)	(-0.094)
Inflation	-0.064	0.099	0.013
	(-0.091)	(-0.084)	(-0.107)
Unemployment Rate	0.033	0.172**	-0.011
	(-0.051)	(-0.061)	(-0.059)
GDP growth	1.036	0.591	4.072*
	(-1.542)	(-1.71)	(-2.089)
GDP per capita	-4.392*	2.451	-4.731
	(-2.39)	(-2.316)	(-3.046)
Constant	76.530***	6.294	69.965**
	(-25.753)	(-24.998)	(-28.298)
Observations	726	309	417
R-squared	0.498	0.765	0.338
Number of ccode	34	15	21

## Table 1. Effect of change in asset price on income inequality

Source: Authors' Calculation.

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Finally, the effect of income inequality on current account was analyzed. To identify the effects of income inequality, a dynamic panel model was estimated for 29 OECD member countries from 1996 to 2017. The results of the analysis show that increasing income inequality has been a factor in reducing the current account balance. However, it was found that the current account improves when the threshold is exceeded. In other words, as income inequality intensifies, the current account has a U-shape. In addition to the Gini coefficient, the increases in child support, net foreign assets, real effective exchange rate, and domestic credit, as well as recession, were all shown to reduce the current account.

#### Figure 2. Income inequality and current account



### **III.** Policy implications

The results of this study suggest that intensifying wealth inequality in Korea can hinder economic growth, meaning it is necessary to create a favorable economic environment for growth through active redistribution policies. In addition, the inequality of wealth in Korea is shrinking domestic consumption and contributing to instability in the consumption of low-income groups, making it necessary to seek policy measures to stabilize consumption in the quintile income group.

In addition, in order to improve income inequality in Korea, it will be necessary to strengthen tax progressiveness on sources of financial income such as real estate. In addition to the government's income redistribution policy, such as strengthening social expenditures for low-income people, it can be said that the price stability of the real estate market is important.

Lastly, if the aging of the population and other changes in the demographic structure continue to increase income inequality, Korea could record a current account deficit sooner than forecasted in previous studies based only on the demographic structure. KIEP

#### References

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