

The Impact of Quality Improvement in Facilities Investment on Growth

Facilities investment is one of the crucial economic variables driving growth in terms of both supply and demand, since it contributes to current economic growth by generating new demand, and determines future growth potential by expanding supply capacity. However, it has been showing a very different pattern from the past. For instance, growth in domestic facilities investment decelerated sharply after the Asian Financial Crisis and its volatility also declined greatly after the IT investment boom of the early 2000s. Facilities investment particularly remains lackluster, despite an improvement in investment conditions including the low interest rate trend and favorable corporate cash flow.

As the investment doldrums have persisted, some point out that the role of facilities investment as a growth engine cannot help but be reduced due to limits on quantitative growth depending on the expansion of investment scale. However, the role of facilities investment as a driving engine of growth in terms of supply may become more crucial, if the function of facilities investment in embodying cutting-edge technological progress undergoes enhancement in the process of transition of growth stage from input-intensive quantitative growth to qualitative growth. Such an interpretation is supported by the fact that the investment structure in Korea has been undergoing a transformation since around the mid 1990s, centering around that of IT capital goods with high rate of embodied technological progress.

In light of this, this paper examines the impact of qualitative improvement in facilities investment, rather than quantitative investment scale, on economic growth, centering around the impact of embodied technological progress on productivity enhancement.

For this purpose, the degree of qualitative improvement in facilities investment was measured through an estimation of the rate of embodied technological

progress realized through the input of capital goods embodying new technology. The estimation based on the DSGE model reveals that the rate of incorporating technological progress in Korea rose sharply to around 16% in the 1990s and 2000s from less than 5% in the 1970s and 1980s. Against the backdrop of this growth, the annual average growth rate of total factor productivity is estimated to have expanded to 2.0~2.2% during the 1990s and 2000s from a mere 1.7% during the 1980s. This is because the contribution rate of embodied technological progress to productivity enhancement rose from 26% during the 1980s to 50%. This implies that a significant part of productivity enhancement has been led by embodied technological progress.

This analysis result has the following implication. In relation to the Korean economy's growth engine, the focus has been given to increases in the scale of facilities investment. However, from now on, more attention needs to be given to fostering growth potential in terms of supply by boosting the quality of invested capital. IT investment and technology development capacity, which is found only in some IT industries, particularly need to be disseminated to other sectors, including the services industry, in an effort to revitalize facilities investment embodying technology. In addition, much effort needs to be devoted to nurturing professionals who can utilize cutting-edge capital goods effectively. Furthermore, since quality improvement in goods, including capital goods, is made rapidly, quality-adjusted price indices which may reflect such changes in quality properly need to be compiled and utilized.