

Malmquist 생산성 지수를 적용한 글로벌 상장리츠의 총요소생산성 추정

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Measuring Total Factor Productivity of Real Estate Investment Trusts using Malmquist Productivity Index Approach

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Abstract

This research aims to present a conceptual model on the total factor productivity changes of global real estate investment trusts(REITs). Based on Malmquist productivity index approach(Data Envelopment Analysis), output distance function is used to construct a input/output production frontier that defines best-practice decision making units, and then TFP changes can be decomposed into efficiency change and technological change evaluating not only the derive forces of TFP changes but the impact of COVID 19 on REITs TFP changes. The results suggest that global REITs have experienced discriminative growth changes between sample countries and sectors, and COVID 19 has induced a dramatic decrement of REITs productivity during 2019~2020 period. The TFP results also found that, after 2020, technological change(expansion of production frontiers) derives a remarkable TFP growth as some leading REITs have strengthened their market competitiveness in that period using congenial economic environments such as low interest rate, diffusion of untact cultures, demand for data center and industrial warehouse etc. The regression results reveals that the size of REITs properties shows a strong positive relationship with TFP changes which implies that the effect of economies of scale still strongly exists and scale inefficiencies have consistently maintained for the sample periods. The results also find that Lastly, with country comparison analysis, leverage has a positive impact of TFP growth in the period of COVID 19 period.

Keywords: REITs, Malmquist productivity index, Data Envelopment Analysis, Total factor productivity, Payout rule, Leverage restriction

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