

# LINKAGES BETWEEN DIRECT AND SECURITIZED REAL ESTATE

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## Abstract

Using data for the 1978-2008 period, this study presents evidence for cointegration between securitized (NAREIT) and direct (NCREIF) real estate total return indices. Cointegration between the indices indicates that REITs and direct real estate are substitutable in the portfolio of a long-horizon buy-and-hold investor. Since the real estate indices are not found to be cointegrated with the stock market, REITs and direct real estate are likely to have similar long-term diversification benefits in a stock portfolio. In line with prior expectations, only direct real estate is found to currently adjust towards the cointegrating relation, with NAREIT returns leading NCREIF returns. However, giving support to the often stated argument regarding weaker informational efficiency of the REIT market prior to the “new REIT era”, the results show evidence for the predictability of NAREIT returns during the 1980s. It is also found that at the beginning of the “new REIT era” a large and long-lasting deviation from the long-run relation between NAREIT and NCREIF emerged. However, there is no evidence of a permanent structural break in the long-run relation since the deviation appears to have been only temporary.

**Keywords:** Cointegration, Vector Error-Correction Models, Direct Real Estate, Securitized Real Estate, REITs, Diversification

**JEL Classifications:** G11, G14, C32

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