Have Equity REITs Experienced Periodically Collapsing Bubbles?

James E. Payne · George A. Waters

Abstract This paper uses the momentum threshold autoregressive (MTAR) model and the residuals-augmented Dickey–Fuller (RADF) test to examine the possibility of Evans’ (1991) periodically collapsing bubbles in the equity REIT market. The results are mixed. The MTAR model indicates that overall real equity REIT prices and dividends are cointegrated with asymmetric adjustment towards the long-run equilibrium. However, the estimated coefficients of the MTAR model do not indicate the presence of periodically collapsing bubbles. Adjustment in the standard cointegration tests of bubbles for skewness and excess kurtosis via the RADF test fails to reject the null hypothesis of no cointegration, leaving the possibility of periodically collapsing bubbles. The MTAR and RADF results with respect to equity REIT sub-sectors are mixed. Lodging is the only sub-sector in which both the MTAR and RADF results support periodically collapsing bubbles. Moreover, market fundamentals proxied by two alternative measures of capacity utilization do not explain either real equity REIT prices or dividends.

Keywords REIT · Equity · Dividends · Periodically collapsing bubbles

Introduction

Within the standard present value model, stock prices are determined by the discounted values of expected future dividends. However, asset prices that are in excess of what is viewed as the asset’s fundamental value have been interpreted as speculative bubbles. A class of speculative bubbles known as rational bubbles, do not violate the rational expectations hypothesis and are consistent with the efficient
markets hypothesis. Investors recognize the overvaluation; however, investors are compensated with excess positive returns for the risk of a bubble collapsing. Such rational bubbles are due to self-fulfilling expectations that can break the connection between prices and dividends over the short term.

With respect to the REIT market there are a number of reasons to explore the possibility of bubble formation in REIT prices. First, the empirical evidence indicates that REITs are integrated with the stock market and share common risk factors. In light of the growing literature on speculative bubbles with respect to the stock market, it is a natural extension to test for bubble-like behavior in the REIT markets. Second, there is some evidence for the presence of speculative bubbles in the housing market, but this issue has not been studied from the standpoint of commercial real estate. Third, when prices continue to increase beyond fundamental values there is an increase in short selling, a signal of overvaluation in the market. In the case of REIT markets, Li and Yung (2004) argue that REIT markets are not liquid enough to support such short selling as a means to signal overvaluation in the market and the formation of a bubble. Fourth, due to informational problems and market inefficiency, there is an underpricing of REIT seasoned equity offerings (Ghosh et al. 2000; Howe and Shilling 1988) which serves as a deterrent to the issuance of seasoned equity offerings to capture market overvaluation (Wang et al. 1995).

Recently, Jirasakuldech et al. (2006) test for the presence of rational speculative bubbles in the equity REIT market over the period 1973:01 to 2003:12 along with the sub-periods 1973:01 to 1991:10 and 1991:11 to 2003:12 with the results indicating the absence of rational bubbles. Specifically, following the approach of Diba and Grossman (1984, 1988a, b), Jirasakuldech et al. (2006) implement the standard unit root and cointegration tests of equity REIT returns and macro fundamentals along with tests of duration dependence in equity REIT returns. Evidence against the presence of bubbles is supported if REIT prices and macro fundamental variables are, respectively, integrated of order one and the existence of a cointegrating vector between REIT prices and the macro fundamental variables. Moreover, evidence against the presence of bubbles is supported if REIT prices do not exhibit negative duration dependence.

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4 Jirasakuldech et al. (2006) also mention the latter three points with respect to bubble formation.

5 Harman and Zuehlke (2004) discuss several shortcomings of using duration dependence tests to detect bubbles. In particular, duration dependence is sensitive to the method of correcting for discrete observation of continuous duration, the use of value-weighted versus equal-weighted portfolios, and the frequency of the observed data.