SUMMARY

Motivated by prior studies on the influence of interest rate on real estate related investment, this study examines the pricing of interest rate risk in property stocks. To fulfill this objective, the Arbitrage Pricing Theory (APT) is operationalised by imposing the APT restrictions onto the linear factor return generating function. Three exogenous factors are used in the model: interest rate, market and industry return. There are two crucial considerations in the establishment of the APT model. The first concerns the specification on the covariance matrix of the disturbance and the second involves the extraction of unanticipated factor movements. In this study, the diagonality assumption of the covariance matrix is relaxed so as to allow for contemporaneous interactions among disturbances. In addition, state space models are used and the factor shocks are extracted via the Kalman filter and maximum likelihood estimation. The Nonlinear Iterated Seeming Unrelated Regression is used to estimate the factor sensitivities and premia in the system of equations. The sample consists of 20 locally incorporated property stocks listed on the Singapore Stock Exchanges and is analysed in three sample periods. The results reveal that interest rate risk is significantly priced in the return of property stocks in all sample periods. The finding that interest rate risk is systematic has direct implications on performance measurement, portfolio management and asset valuation.

Keywords: Arbitrage Pricing Theory (APT), state-space models, the Kalman filter, the Nonlinear Seeming Unrelated Regression, systematic, diagonality.