In this paper, we develop a method to perform cointegration estimation for time series data that change from a unit root process to a moderately explosive process representing a bubble.

First, we show that if we misidentify the lags of the bubble-causing variables, the estimation of the cointegration vector is biased because the autoregressive root changes within the sample.

Therefore, we propose a method for estimating a cointegration vector and lags between cointegrating variables when bubble periods are included. We also show the asymptotic non-normality of this estimator. This asymptotic non-normality also holds true in the case of multiple bubbles, where the autoregressive root changes multiple times.　As an example of the estimation method, we present the results of estimating the ripple effect of the house price index by region in the UK. The results show that the bubble originates in the southeast, centered on London, and spreads outwards from there with a spatial lag.