

*Forecasting House Prices at the State and National Level: Was the Housing Bust Predictable?*

Yolanda Kodrzycki, Federal Reserve Bank of Boston

Robert K. Triest, Federal Reserve Bank of Boston

How predictable was the national house price bust that occurred in the late 2000s? We present estimates and simulations from an econometric model of house prices which is designed to answer these questions. We model state-level house prices as following a two equation error-correction process. The first equation is based on the cointegrating relationship between real house prices, real per capita income, and other variables; this equation is used to predict latent “fundamental” real house prices. The second equation models the quarterly growth rate of real house prices as a function of the predicted growth in the “fundamental” price, the lagged gap between actual real house prices and the “fundamental” price, four autoregressive terms, and other variables. Using a version of the model estimated using data through 2003, before the final stage of the house price boom and subsequent bust, we show that a national house price bubble (in the sense of actual aggregate prices greatly exceeding aggregate fundamentals prices) was evident by the mid-2000s if the national estimates are calculated by aggregating over state-by state predictions. In contrast, a stable error correction process is not evident when estimating using national time series data. The national house price bust was predictable, but only if one started at the sub-national level and then aggregated up.