

(38) Jud, G. Donald, Winkler, Daniel T. "The Dynamics of Metropolitan Housing Prices." *Journal of Real Estate Research*, 2002, 23: 29-45.

The study examines the dynamics of real housing price appreciation in 130 metropolitan areas across the United States during the 1984-1998 period. The authors estimated a regression of the percentage change in housing prices on the percentage change in real income, stock prices, real aftertax mortgage interest rate, and population, a lagged stock prices, and a lagged real construction costs. The results show that all coefficients are statistically significant and have the expected signs. The estimated coefficients reveal that a 1% change in real per capita income is associated with a 0.17% change in real housing prices, while a 1% change in stock prices is found to produce a 0.099% change in housing prices, and the lag produce a 0.063% change. The findings also indicate a 1% change in real aftertax mortgage real interest rates is associated with a 0.024% increase in real prices, and a 1% change in real construction costs raises housing values by 0.12% following a one period lag. Finally, a 1% change in the rate of population growth raises housing values by 1.09%.

Finally, appreciation rates are found to vary across areas because of location-specific fixed effects, although most of the variation in appreciation stems from differences in the rates of growth of real income and population. The Metropolitan Statistical Area MSA fixed effects represent the residuals of housing price appreciation attributable to location. The magnitudes of the fixed effects in particular cities are positively correlated with restrictive growth management policies and limitations on land availability.