

Hedonic Price-Rent Ratios for Housing: Implications for the Detection of Departures from Equilibrium

Iqbal Syed
University of New South Wales

In equilibrium the quality-adjusted price-rent ratio for housing should equal its user cost. Actual median price-rent ratios may be misleading since purchased dwellings on average tend to be of better quality than rented dwellings. Combining house sales and rents data for Sydney, Australia over the period 2001 to 2009 we construct a data set consisting of in excess of 900,000 observations. We then use an innovative hedonic approach to impute a rent for each dwelling sold and a purchase price for each dwelling rented, thus allowing us to compute price-rent ratios at the level of individual dwellings. Using these price-rent ratios, which by construction are quality adjusted, we find that the actual median price-rent ratio is systematically about 8 percent larger than its quality-adjusted counterpart. We also find that for most of our sample the quality-adjusted median price-rent ratio exceeds its equilibrium level derived from the user cost formula. The equilibrium price-rent ratio is itself highly sensitive to the assumed rate of expected capital gains. Our estimate of 21 for the equilibrium price-rent ratio is obtained using the average real capital gain during our sample of 3.4 percent per year. This is high by historical standards, thus suggesting that our equilibrium price-rent ratio may also be too high. An alternative approach is to assume that the housing market is in equilibrium and then use the user-cost formula to impute the expected capital gain. Using this approach we generate an imputed expected real capital gain of about 4.5 percent per year, which is even more implausible. This again indicates that, for at least most of our sample, the price-rent ratio in Sydney was at an unsustainable level.