

The Natural Rate of Structure Depreciation: Decoupling Capital Gains and Maintenance Improvement from Property Value Variation

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Abstract

This paper, motivated by the observations that the land of a property does not depreciate, along with taking into account the capital gains from housing boom and bust cycles, provides a novel approach to separate housing structure depreciation and capital gains on land into two distinct components that make up overall changes in property value. This analysis is further developed by distinguishing between the natural rate of structure depreciation (the rate that would occur in the absence of maintenance) and the effects of maintenance on structure value over time. We utilize this approach to estimate the natural depreciation rate of housing structure value and homeowner's maintenance technology of single-family detached housing in the New York metropolitan area using data from the American Housing Survey. This method estimates the natural rate of depreciation of structures to be roughly 9 percent per year; this shows a significant, and often overlooked economic cost is associated with real estate ownership due to value loss from structure depreciation and maintenance expenses.