# Forgotten Booms and Busts: New Sale and Rental Price Indices for U.S. Housing, 1890-1990

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## One-page Abstract

Given the importance of housing as an asset on households' balance sheets and as a good in their consumption baskets, the scarcity of reliable measures of long-run trends in the sale and rental price of housing, at both city and national levels, is problematic. This paper introduces new quarterly indices for sale and rental prices of U.S. housing from 1890, using real estate listings for five major metropolitan areas. It does this by using hedonic methods and a dataset of almost 750,000 manually entered real estate listings. This is used to identify local and national booms and busts in the housing market, as well as estimates of the sale-rental housing price ratio at city-level and for the U.S. since 1890.

The most closely related research is Shiller (2005) for sale prices and Rees & Jacobs (1961) for rental prices. Shiller (2005) uses five different sources to compile a sale price index for the U.S. for the period from 1890 on but notes that his index is "imperfect" (p.12) and ought to be improved, given its reliance on memories and perceptions (1890-1934) and its lack of correcting for quality change (1934-53). Such limitations make it difficult to reconcile the lack of any major price falls during the Great Depression in the Shiller index with, for example, the 67% fall recorded in detailed research for Manhattan (Nicholas and Scherbina, 2013). Similarly, Rees & Jacobs (1961) compile a rent index for 1890-1914 using newspaper listings but also note the upward bias in their index, as quality changes are not controlled for.

The indices presented here go beyond previous work by systematically capturing dwelling and site attributes, including location. This allows modern methods of index construction, in particular the use of hedonics controlling for location, size and type (in the baseline) and age, site size, utilities and other dwelling features (in extensions). These empirical specifications are applied to datasets of over 130,000 listings for each of Boston, Chicago, Los Angeles, New York and Washington, covering every year from 1890 to 1990.

Given the reliance on listed prices, trends are compared with existing indices for the 1980s, to validate the resulting city-specific indices. The findings are then contrasted with the previous indices for Shiller (in particular for 1890-1953) and Rees & Jacobs. In sharp contrast to Shiller, the indices presented here do not find a quick rebound in housing prices after the Great Depression, with both sale and rental prices, in real and nominal terms, only reaching their 1920s peaks at the end of World War 2. The impact of post-war rent controls is also evident in both rent and yield series, while utility premiums, especially in the early 20th century, speak to issues raised by Gordon (2016) in relation to living standards at the time.

The second phase of the project will extend the indices to cover 20 cities. The resulting city-, regional- and national-level indices of sale and rental prices, land values and yields will enable a large body of follow-on policy-relevant academic research. This includes macroeconomic and financial research, on housing as an asset and how housing prices interact with construction, regulations, income and credit. The granular nature of the dataset also allows analysis of applied microeconomic questions, including the determinants of neighbourhood change over time, such as Great Migration and white flight, the impact of land use restrictions, the effect of transport infrastructure, the role of innovations to credit, and the estimation of local government multipliers as captured in housing and land values.

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**References**

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