

UCLA ECONOMIC LETTER

REAL ESTATE AND THE MACROECONOMY



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Monthly condensed analyses of crucial real estate and economic issues offered by the UCLA Anderson Forecast and UCLA Ziman Center for Real Estate. Here, Stephen Oliner, resident scholar at the American Enterprise Institute and a senior fellow at the UCLA Ziman Center for Real Estate, reveals comprehensive data connecting the fall of land prices in Los Angeles with the region's most recent housing bust.

The Housing Boom and Bust in Los Angeles Under the Microscope: Land Prices Hold the Key

By Stephen Oliner, senior fellow, UCLA Ziman Center for Real Estate

We often talk about "the" housing market in a large metropolitan area like Los Angeles, as if conditions in, say, Santa Monica were the same as in Riverside. This shorthand, however, is misleading. Los Angeles contains many local housing markets, which differ greatly from one another. Understanding the developments in these local markets requires detailed micro data.

"The jumps in land and house prices led to the perception that prices would only keep rising, which caused lenders to offer mortgages on ever easier terms. The cycle continued until the loans started to default, at which point the whole edifice collapsed."

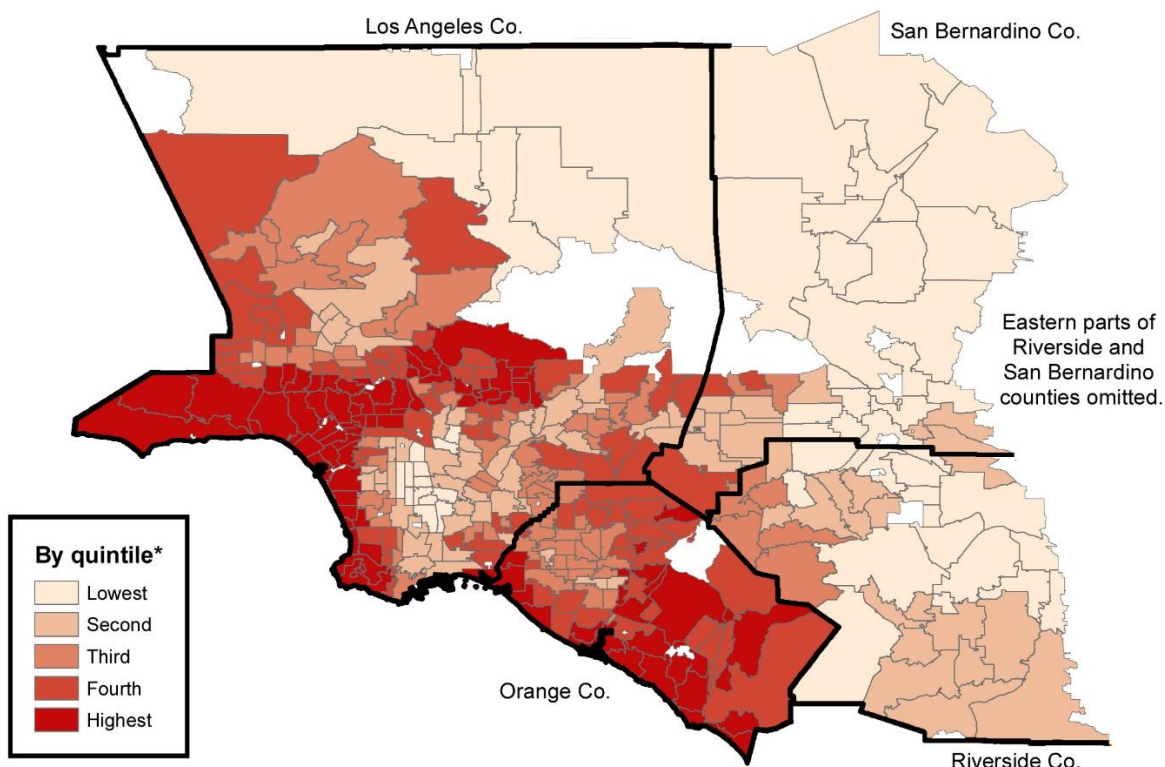
An ongoing project at the American Enterprise Institute (AEI) uses an unprecedented dataset to characterize the recent boom and bust in house prices at the zip-code level for Los Angeles and nine other metropolitan areas across the country.¹ The research shows that changes in land values drove what happened to house prices over the recent cycle. This Letter describes the study and presents key results for the LA metro area.

BACKGROUND

Much previous research has shown that land prices can be very volatile. The high volatility reflects the limited supply of buildable land. When the demand for housing rises, it pushes against this limited supply, causing land prices to rise sharply. The same dynamic works in reverse: when housing demand weakens, land prices plunge. The sensitivity of land prices to changes in market conditions highlights the value of focusing on land for assessing house-price risk.

Our study advances the literature on land prices in two ways. First, our dataset is far larger than that in any previous study. For the LA area alone, we have data on almost three million detached single-family properties. Second, we introduce a new methodology for estimating land prices at a fine level of geography. We do so by leveraging the information in the sale prices of new homes. For these homes, we measure land value as the difference between the home's sale price and the estimated replacement cost of the new structure. We then apply this land value to other homes in the locality, with an adjustment for differences in lot size.²

Figure 1: Average House Price in 2014:Q2, LA Metro Area



*Range of average zip-level house price in each quintile (rounded to the nearest \$1000) is \$31,000 to \$285,000, \$285,000 to \$392,000, \$392,000 to \$513,000, \$513,000 to \$721,000, and \$721,000 to \$3,649,000.
Source: Authors' calculations using data from FNC, Inc.

¹ The other nine metro areas are Boston, Chicago, Detroit, Memphis, Miami, Oklahoma City, Phoenix, Seattle, and Washington, DC. The project team consists of Edward Pinto at AEI, Morris Davis at Rutgers University, Sankar Bokka at FNC, Inc., and myself. A progress report on the ten-metro study can be found at https://www.aei.org/wp-content/uploads/2015/10/HousingConference_10.28.15_Panel-II_2_Oliner.pdf.

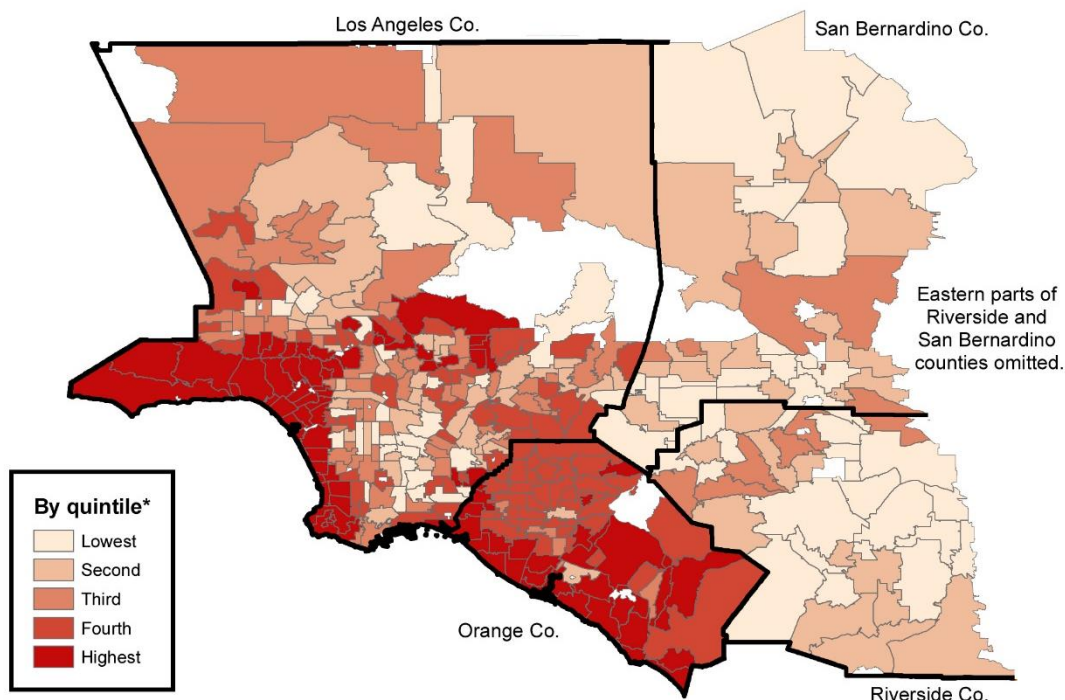
² For details about our methodology, see <https://www.aei.org/publication/house-prices-and-land-prices-under-the-microscope-a-property-level-analysis-for-the-washington-dc-area/>.

RESULTS FOR THE LA METRO AREA

To begin, figure 1 displays the pattern of house prices across the LA metro area in 2014:Q2, the final period in our dataset. The zip codes are divided into quintiles, with the darkest shading for the highest price quintile, and the lightest shading for the lowest quintile.³ As shown, house prices are generally low in Riverside-San Bernardino and high in Orange County. Prices vary widely across LA County: they're high along the coast and in a west-to-east band from Malibu to Pasadena and much lower in South Central LA and the northern areas close to the Central Valley. These same patterns also held at the beginning of our dataset in 2000:Q1 and thus are long-standing features of the LA housing market.

Figure 2 shows the parallel heat map for land prices in 2000:Q1.⁴ The shading is very similar to that in figure 1, indicating that differences in land values help account for the variation in house prices. Across the LA metro area, the price of a quarter-acre lot in 2000:Q1 ranged from only a few thousand dollars in parts of Riverside-San Bernardino and LA County to almost \$1 million in the most expensive areas.

Figure 2: Average Land Price for a Quarter-Acre Lot in 2000:Q1, LA Metro Area



*Range of average zip-level land price for a quarter-acre lot by quintile (rounded to the nearest \$1000) is \$1000 to \$15,000, \$15,000 to \$46,000, \$46,000 to \$124,000, \$124,000 to \$187,000, and \$187,000 to \$990,000.

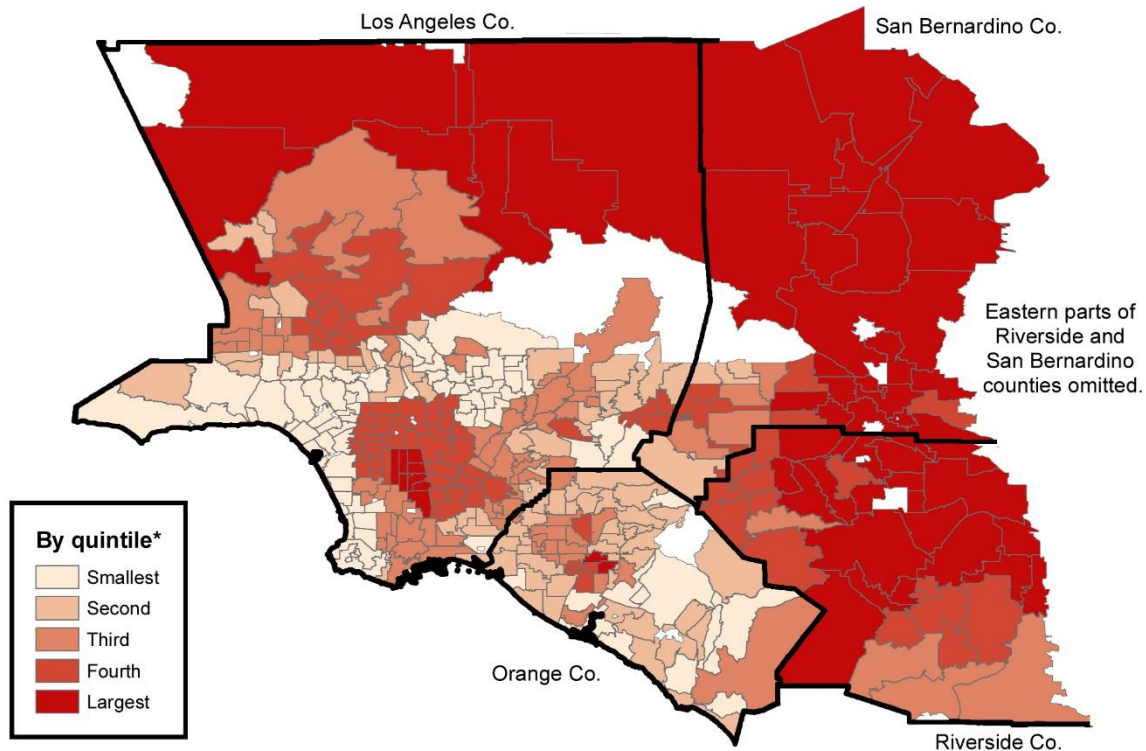
Source: Authors' calculations using data from FNC, Inc. and Marshall & Swift, a CoreLogic company.

The final heat map, figure 3, portrays the decline in house prices from the peak in 2006 to the trough in 2012. The darkest shading indicates the steepest declines. The map clearly shows the house-price bloodbath that occurred in most of Riverside-San Bernardino and parts of LA County, where house prices fell as much as 70 percent. Importantly, the shading in figure 3 is almost completely the opposite of that in figure 2. That is, the localities where land was cheap before the housing boom suffered the most during the bust. This finding is one of the key results in our study.

³ A few technical details. First, zip codes with less than 1000 detached single-family homes are combined with adjacent zip codes to form a zip group that has at least 1000 homes; figure 1 shows the average house prices for these zip groups. Second, although the quintiles are based on all the zip groups in Los Angeles, Orange, Riverside, and San Bernardino counties, the figure omits the eastern parts of the latter two counties, which occupy a large area but are sparsely populated.

⁴ We show land prices at the beginning of the data period because the initial level of land prices plays a prominent role in the analysis below.

Figure 3: House Price Decline, 2006-2012, LA Metro Area

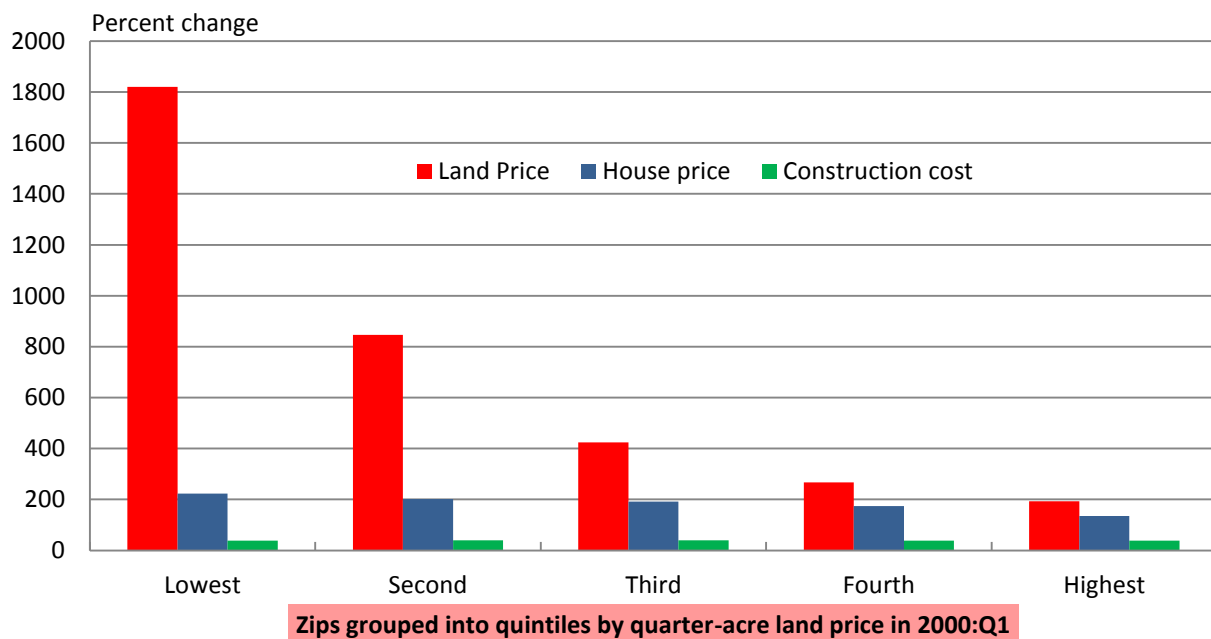


*Range of zip-level house price decline by quintile (rounded to the nearest 1%) is less than 31%, 31% to 41%, 41% to 46%, 46% to 54%, and 54% to 70%. Smallest quintile includes zips 90069, 90401, 90402, 90403, 90404, 90405, 91007, and 91108, where house prices increased between 2006 and 2012.

Source: Authors' calculations using data from FNC, Inc.

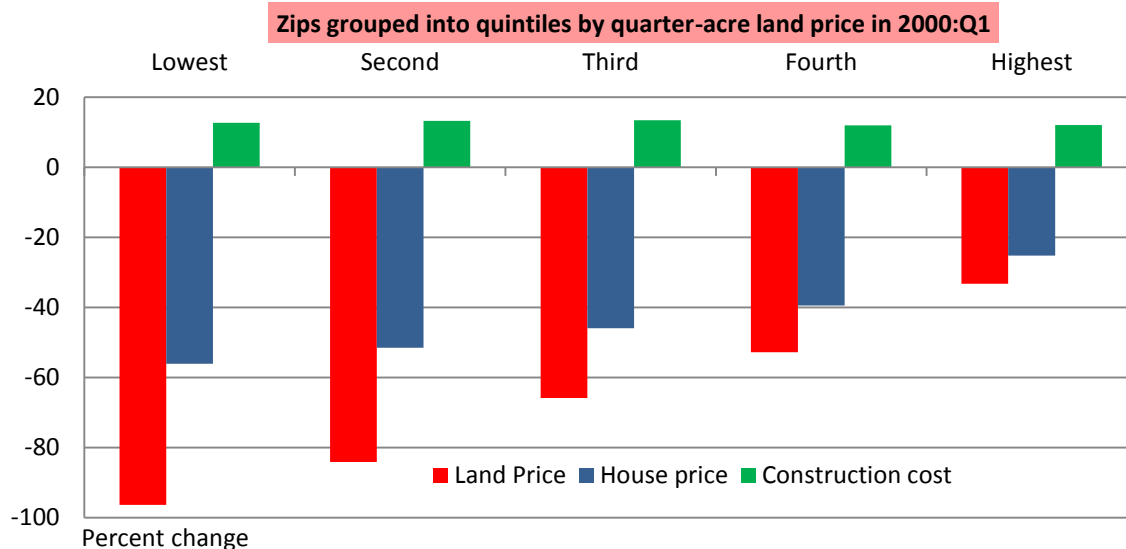
Figures 4 and 5 quantify this connection between the initial level of land prices and the extent of the boom/bust cycle. Both figures group the individual zips into quintiles based on their quarter-acre land price in 2000:Q1.

Figure 4: Prices and Construction Costs, 2000-2006, LA Metro Area



Source: Authors' calculations using data from FNC, Inc. and Marshall & Swift, a CoreLogic company.

Figure 5: Prices and Construction Costs, 2006-2012, LA Metro Area



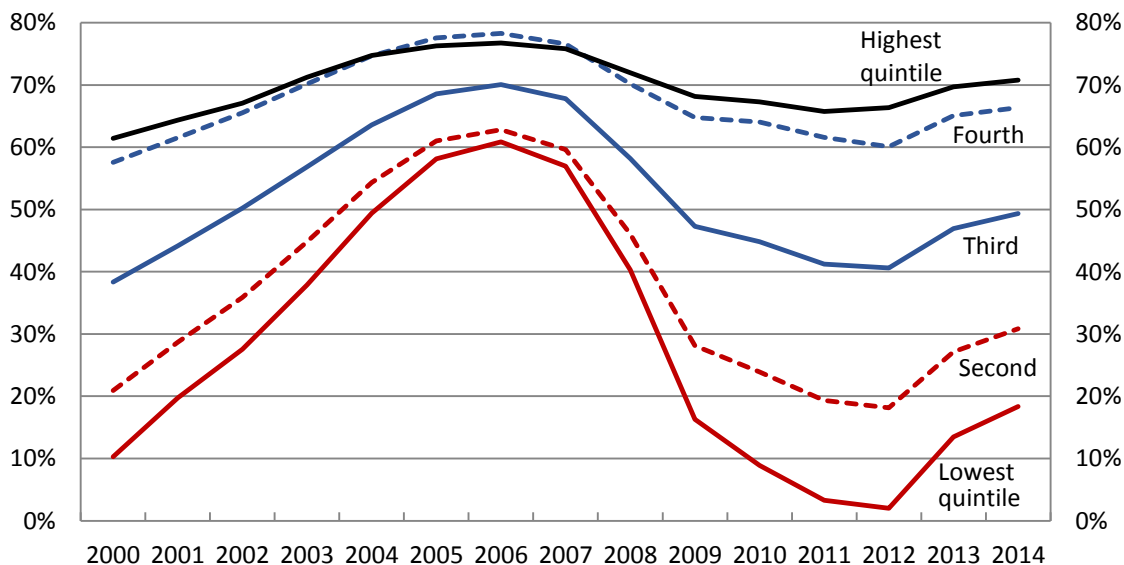
Source: Authors' calculations using data from FNC, Inc. and Marshall & Swift, a CoreLogic company.

As shown in figure 4, land prices rose more than house prices from 2000 to 2006 in every quintile, with an enormous difference in the lowest quintile, where land prices rocketed up an estimated 1800 percent. In contrast, the rise in construction costs is barely visible in the figure, indicating that these costs accounted for little of the jump in house prices.

During the bust, figure 5 shows that land prices fell more than house prices, particularly in the zips with the cheapest land initially. In those quintiles, land had become nearly worthless by 2012. With construction costs continuing to rise, the plunge in land value more than accounted for the drop in house prices.

The outsized movements in land prices implied changes in the land share of property value. As shown in figure 6, the land share in the lowest land-price quintile jumped from 10 percent in 2000 to 60 percent in 2006, and then reversed all of this increase and more by 2012. In the next quintile, the rise and fall was slightly less extreme, and it became more and more muted in the third, fourth, and highest land-price quintiles.

Figure 6: Land Share of Property Value, LA Metro Area



Note: Zips grouped into quintiles based on 2000:Q1 quarter-acre land price. 2014 is an average of Q1 and Q2. Source: Authors' calculations using data from FNC, Inc. and Marshall & Swift, a CoreLogic company.

There are only two possible explanations for the meteoric rise in the land share in the lowest land-price quintile, which consists primarily of zips in Riverside-San Bernardino and South Central LA. Either the amenities provided by those locations – the access to jobs, the quality of the schools, and so on – had improved dramatically over 2000-06 or speculative forces had pushed land prices to an unsustainable level. The fact that the land share subsequently crashed points to speculative forces as the explanation. Moreover, the fallout from the bust was borne heavily by lower-income and minority households, which constituted a large share of the population in these areas.

The story that lies behind these data likely goes as follows. As the boom took hold, rising house prices forced many homebuyers to focus on the areas that were still affordable. These were the areas with cheap land. Demand in these areas soared, fueled by ever looser credit standards. The resulting jump in land prices and house prices led to the perception that prices would only keep rising, which caused lenders to offer mortgages on ever easier terms. The cycle continued until the loans started to default, at which point the whole edifice collapsed.

CONCLUSION

Buying a home in the LA area is, at root, a speculative investment in land. This is especially true in neighborhoods where land tends to be cheap except during unsustainable booms – mainly Riverside and San Bernardino Counties and the lower-income and distant parts of LA County. In such areas, the sharp increase in the land share of property value during the last cycle was a flashing red signal of the subsequent house-price crash.

Within the next year, AEI will begin publishing quarterly land-price indices and land shares for localities in LA and nine other metro areas. This information will help home buyers and sellers make more informed decisions, thereby reducing the risk of yet another devastating housing crash in LA and other cities.

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