

# New Home Structures and Land

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Despite pressures on land supply in many areas from growth controls and other regulatory constraints, analysis of Census Bureau data for new homes sold indicates that the share of home prices due to the cost of building lots did not increase, partly because homes grew while lots were smaller. The national average ratio of lot cost to sales price in 2000 was 20.4 percent, the same as in 1996, and slightly less than in the late 1980s. The median ratio of lot value to sales price in 2000 was 19.5 percent, essentially identical to the median of 19.4 percent found in a similar NAHB analysis of 1996 data.<sup>1</sup>

The stability of the ratio of lot value to sales price between 1996 and 2000 occurred despite the fact that the cost of building lots on a per acre basis jumped 26 percent (from \$174,406 to \$219,819), while construction costs per square foot only increased 13 percent. During that period, the median living area of new homes increased, while the typical lot size fell. As Figure 1 shows, the trend toward larger structures on smaller lots was present throughout the 1990s. The home size measure does not include garages and other unfinished areas. During the 1990s the share of new homes without garages continued to fall, and an increased share were built with garages for three or more cars, making the reduction in lot sizes even more noteworthy.

## Regional Differences

Data for the Census Bureau's nine geographic divisions, shown in Table 1, indicate that the lot value as a

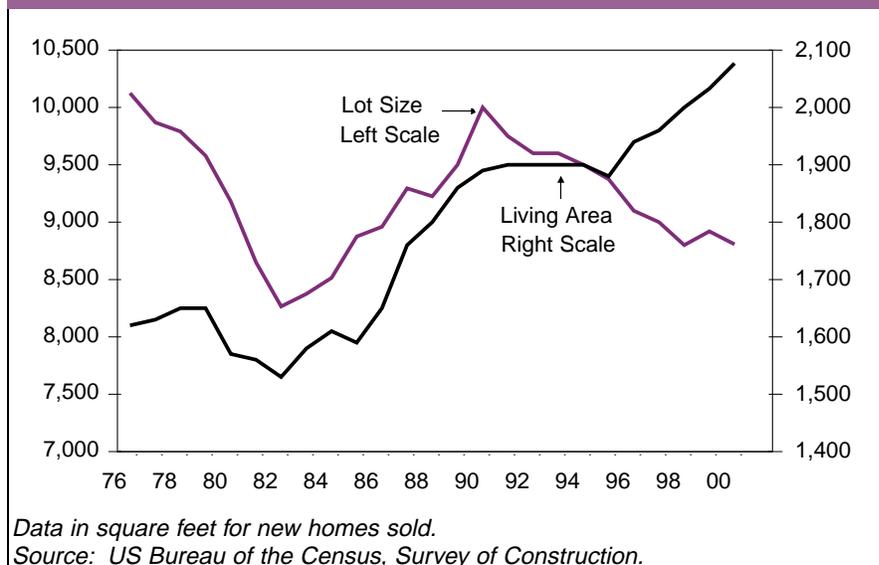
share of sales price in 2000 ranged from a median of about 16 percent in the West South Central and West North Central states to a median of 30 percent in New England. While the differences among divisions in the land share of total price were substantial in 2000, the differences were not as pronounced as in 1996. The land share of new home prices declined between 1996 and 2000 for the high-cost New England and Pacific divisions, but increased substantially in the West South Central division, and slightly in the West North Central division. The median ratio for the Mountain states also grew, from 19.6 percent to 22.0 percent, over that period, while the ratios in the other divisions did not change by much. The data for 1996 and 2000 indicate that most divisions reflected the national trend toward larger structures on smaller lots.

The median lot cost was highest in New England, at \$90,000. That bought more than half an acre. The median lot cost in the Mountain division was \$34,500, but the medi-

an lot size there was only about 7,000 square feet, so on a per-acre basis developed land in the Mountain states was rather expensive. The highest median per-acre cost was in the Pacific division, at \$388,623, but with a median lot size of only 6,112 square feet, the median lot cost, at \$55,000, was well below New England.

Relatively few homes were built and sold in New England in 2000, and those were largely aimed at the high end of the market, so the costs and other characteristics reflect the fact that new housing there does not address as broad a share of the overall housing market as in other regions. The larger lot sizes in New England do not, however, simply result from a greater demand from home buyers for large lots, but reflect regulations requiring lower density. If higher density construction were permitted, the price per acre would probably rise, because an acre on which construction of six or eight homes is permitted will be more valuable than an acre on which

Figure 1. Median Lot Size and Living Area



only one or two homes may be built. The cost per lot, however, would be lower.

There were significant regional differences in average structure cost per square foot. The differences are partly a reflection of differences in labor costs or other input costs. They also reflect differences in the features typically included in homes in each region, including construction requirements dictated by different climates, soil conditions, or political mandates.

For a further discussion of regional differences in the characteristics of new homes, and the effects of those differences on average prices, see the article by Paul Emrath in this issue of *Housing Economics*.

### Historical Perspective

The results shown in Table 1 are based on tabulations performed by NAHB from individual responses to the Census Bureau's Survey of Construction (SOC), which collects data on new homes sold, as

well as those started and completed. The data for individual responses (with addresses and other identifying information excised) were only available to NAHB and other public users for the past few years.

The Census Bureau calculated the average of the ratios of lot value to sales price for 1980 to 1989 for an unpublished analysis, in a manner similar to that used by NAHB to calculate the 20.4 percent value for 2000 shown above. The national average ratio increased from 18.1 percent in 1980 to 20.9 percent in 1988 and 1989, according to those calculations. The average ratio for 2000 was thus slightly below the average in the late 1980s, for those homes in the SOC sample for which lot values were available.<sup>2</sup> The higher ratios in the late 1980s are partly attributable to the fact that a larger share of home sales in those years occurred in high-cost northeastern and California markets.

It is tempting to seek some further historical perspective on lot

values relative to sales prices using estimates of the average lot value inferred from published SOC tabulations, but there are pitfalls in that exercise. The published information includes average sales price, average living area, and average price per square foot, excluding land. The average sales price excluding land can be estimated by multiplying average square feet times average cost per square foot, and average lot value could be calculated by subtracting the result from average sales price. This residual estimate of lot value was equal to about 21 percent of the average sales price for homes sold in the early 1980s, but increased to a peak of 28 percent in 1989 before gradually declining in the early 1990s.

The residual estimate of lot value may be biased and inaccurate, however, because data on cost per square foot were not available for many of the SOC homes.<sup>3</sup> Moreover, even if the estimates of

**Table 1. Home Sales for Year 2000 by Region and Division**

	Northeast		Midwest		South			West		National
	New England	Mid-Atlantic	East No. Central	West No. Central	South Atlantic	East So. Central	West So. Central	Mountain	Pacific	
<b>AVERAGE</b>										
Sales Price	\$310,345	\$254,118	\$220,208	\$170,293	\$185,168	\$163,628	\$158,414	\$188,410	\$278,149	\$203,796
Lot Price	\$90,663	\$53,718	\$43,016	\$28,620	\$34,777	\$27,502	\$24,375	\$39,729	\$67,675	\$40,248
House Size (S.F.)	2380	2499	2297	1932	2245	2132	2435	2089	2378	2260
Lot Size (S.F.)	25900	18420	14058	11707	14323	13807	9983	9321	8138	12435
House Price/S.F. (structure only)	\$93.69	\$74.78	\$72.75	\$75.32	\$63.36	\$62.86	\$53.15	\$70.86	\$87.13	\$69.18
Cost per acre of lot	\$207,277	\$213,745	\$182,181	\$151,101	\$178,832	\$131,329	\$132,864	\$246,258	\$474,384	\$219,819
Lot price/sale price	29.0	21.7	20.8	16.6	19.9	17.4	15.9	22.2	25.3	20.4
<b>MEDIAN</b>										
Sales Price	\$290,000	\$199,000	\$189,000	\$150,000	\$156,800	\$145,000	\$135,300	\$156,400	\$231,000	\$169,100
Lot Price	\$90,000	\$42,000	\$38,000	\$25,000	\$30,000	\$25,000	\$21,000	\$34,500	\$55,000	\$32,000
House Size (S.F.)	2296	2355	2144	1800	2052	1927	2253	1814	2266	2080
Lot Size (S.F.)	24000	12000	10890	9958	10890	10000	7469	7020	6112	8750
House Price/S.F. (structure only)	\$91.26	\$69.60	\$71.32	\$75.83	\$61.11	\$62.02	\$50.52	\$68.44	\$77.03	\$65.31
Cost per acre of lot	\$140,335	\$155,239	\$158,365	\$119,737	\$120,000	\$111,879	\$123,750	\$224,023	\$388,623	\$158,285
Lot price/sale price	30.0	21.3	20.0	16.0	19.4	17.2	16.2	22.0	25.5	19.5

Source: NAHB tabulations of 2000 home sales, Survey of Construction, U.S. Bureau of the Census  
Note: Includes only cases where estimates of lot value were available.

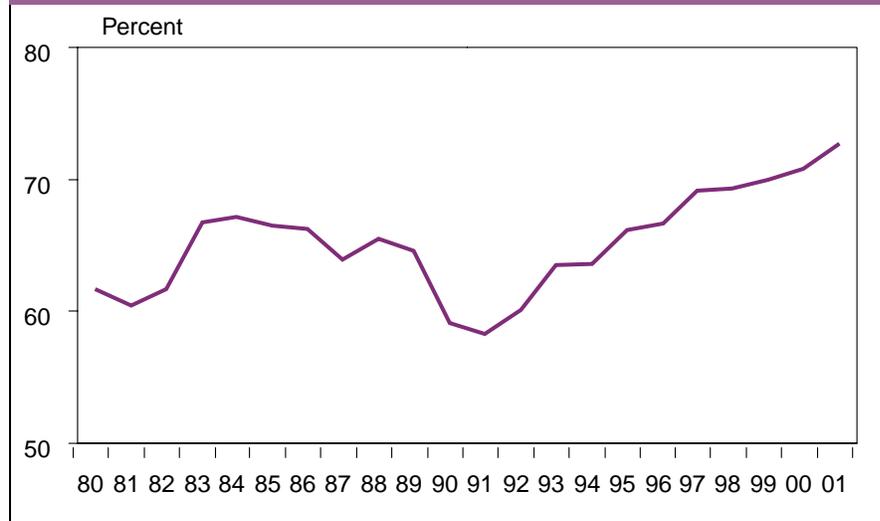
average lot value were accurate, the ratio of the average lot value to average sales price is not the same as the average of the individual ratios of lot value to sales price.

For 2000, the residual estimate of average lot value is \$47,400, which is 22.9 percent of the published average sales price of \$207,000. Since we have the actual survey responses for 2000, we can see how the crude indirect estimates compare to direct calculations. Using only SOC cases for which the lot value was available, the average lot value was \$40,248 and the average sales price in 2000 was only \$203,796. The ratio of those two numbers was 19.7 percent. The average of the individual ratios of lot price to sales price, however, was 20.4 percent.

### For-Sale vs. Custom Lots

The data shown above only cover homes sold. Lot sizes are generally larger for homes that are custom-built on land owned by the prospective occupants, rather than built for sale on land owned by the builder. For 2000, the median size of contractor-built homes (i.e., where the land owner hires a general contractor) was 34,230 square feet. For owner-built homes (i.e., where the land owners act as general contractors for homes they will occupy) the median lot size was 53,579 square feet. Thus, these lots were much larger than for homes that were sold, where the median lot size was 8,750 square feet among those for which lot value was available, and 8,807 square feet among all sales for which lot size was available.

Figure 2. For-Sale Share of Single-Family Starts



Over the past decade, the share of homes built for sale has grown. In 1991, only 58 percent of single family housing starts were intended for sale (down from 66 percent in 1988), while 24 percent were contractor-built and 16 percent were owner-built.<sup>4</sup> In 2000, for-sale units represented 71 percent of total single family starts, while contractor-built starts accounted for 16 percent and owner-built starts only 10 percent.

The increased share of new homes built for sale, as well as the decline in the lot sizes among for-sale new homes, means that land was used more sparingly in new home construction in recent years.

<sup>1</sup> See Darin Lowder, "Regional Variation in Lots and Costs," *Housing Economics*, August 1997.

<sup>2</sup> In 2000, lot values were available for about 80 percent of homes in the SOC, while less than 60 percent of the SOC records in the late 1980s included lot value.

There are some indications that the average ratio in 1989 would have been slightly higher if the data for lot values had been more complete, because the homes for which lot values were high relative to sales price may have been underrepresented. The percentage of homes for which lot values were given was lower for those priced at more than \$200,000, and the ratio of lot value to sales price tended to be higher for more expensive homes.

<sup>3</sup> The SOC questionnaire actually asks for estimated lot value, not price per square foot. The published estimate of average price per square foot is calculated, for those homes for which estimates of lot value were available, by subtracting lot value from sales price and dividing by the living area. The calculation described here is thus a crude attempt to reverse the process and get back to the lot value. Since the published average value of price per square foot was calculated as an average of ratios, rather than a ratio of averages, there is a further potential bias involved in estimating average price excluding land in the manner described.

<sup>4</sup> The remainder were built for rent.