

**How Government Regulation Affects the
Price of a New Home**
Special Study for NAHB's Housing Economics
July 2011

**Appendix:
Assumptions Used in the Calculations**

- 1.0 point charged for all land acquisition, development, and construction (AD&C) loans, based on results from a Quarterly Finance Survey (QFS) that NAHB was conducting in 2002 and 2003. Terms on loan terms made during this period are likely to better reflect typical long-run averages than terms on loans during the subsequent period of easy credit, or the period of decline and tightening that emerged afterwards.
- An 8.5 percent interest rate on all AD&C loans. The QFS indicated that rates in 2002 & 2003 were typically set a full point above prime, and 7.5 percent is NAHB's estimate of the prime rate under neutral Federal Reserve monetary policy.
- A 10.0 percent profit rate for builders and developers, based on the average rate on NAHB Construction Cost surveys conducted between 1995 and 2009¹ (<http://www.nahb.org/generic.aspx?sectionID=734&genericContentID=134543&channelID=311>). In the long run, without a competitive return on investment, builders and developers will leave the industry, lots will not be developed, and homes will not be built.
- A brokers fee of 2.9 percent, based on the "nonconstruction" cost factor the Census Bureau applies to single-family homes built for sale (<http://www.census.gov/const/C30/methodology.pdf>). In housing markets, brokers fees are typically set as a fraction of the home's purchase price.
- Raw land that accounts for 10.6 percent of the price of a home built for sale (Census nonconstruction cost factor).
- A finished lot that accounts for 23.7 percent of the house price (1995-2009 NAHB Construction Cost Survey average).

- Construction costs that account for 52.9 percent of the house price (1995-2009 NAHB Construction Cost Survey average).

Many of the additional costs described in Table 1 of the article require estimates of the length of time between various stages of the home building process, especially interest paid on outstanding loans. In addition to the “hard” costs shown in that table, two questions in the April 2011 survey dealt with lags attributable to government regulations. On average, respondents reported that it takes 15 months between the time they apply for zoning/subdivision approval and the time they obtain preliminary approval to start site work (question 5b). Respondents also reported that, on average, complying with regulations adds 7 months to the development process (5e). The average of seven months incorporates 8 percent of respondents who said that complying with regulation typically causes them no delay.

It is assumed here that the delay caused by complying with regulation is spread across the entire development process, with half occurring before preliminary site approval is obtained, and half afterward. It is further assumed that, in the absence of regulation, the time between the developer obtaining preliminary zoning/subdivision approval and selling a finished lot to a builder is 3 months. This was shortest possible time mentioned in conversations with several developers, even for a small and simple subdivision with as much engineering work as possible done before preliminary approval. Using the shortest reasonable time for this lag avoids overstating interest costs.

For the builder, it is assumed that authorization to build is obtained at the same time the lot is purchased, that time from authorization to the start of construction is 0.9 months, that the time from start to completion is 6.0 months, and that the time from completion to sale is 2.4 months. These are average times computed from the Census Bureau’s Survey of Construction microdata files

(http://www.census.gov/const/www/surveyofconstructionmicrodatafile_cust.pdf) over the 2000-2009 period, based on homes that were sold during that time, assuming that the completion-sale lag is zero for homes sold before the completion date.

¹ Prior to 1995, construction cost surveys were conducted less often than once a decade and did not collect information on builder or developer profit.