

Impact of Home Building and Remodeling on the U.S. Economy
Special Study for NAHB's Housing Economics
May 2014

Appendix:
Assumptions Used in the Calculations

A. Value of New Construction

- Average price of a single-family home built for sale in 2013: \$318,308 (average of 12 months of mean new home prices from the Census series on [New Residential Sales](#)).
- Difference between price and construction value of a home built for sale: 15.8% (for raw land, landscaping, appliances, brokers fees, and marketing & finance costs. These are taken from the Census Bureau's [Construction Methodology](#), where they are called non-construction cost factors).
- Average market value of a new custom home built in 2013: \$476,260 (1.4 times the average price of a single-family home, with the ratio of 1.4 computed using microdata from the 2011 HUD/Census Bureau [American Housing Survey](#))
Custom built homes are defined to include both contractor-built and owner-built homes.
- Difference between market value and construction value of a custom built home: 12.0% (using Census non-construction cost factors for contractor built homes, plus assuming that the 10.6% for value of raw land for homes built for sale also applies).
- Share of new single-family homes built for sale: 75% (the rounded ratio from the Census Bureau's [Housing Units Started by Purpose and Design](#) for 2012).
- Average market value of a newly built rental apartment in 2012: \$119,600 (median average asking rent for apartments completed in 2012 from the HUD/Census Bureau [Survey of Market Absorption](#), divided by 11%, the median rent to value ratio from the HUD/Census Bureau [Rental Housing Finance Survey](#)).
- Inflation rates applied to market and construction value: 10.6% for 2013, 8.4% for 2014 (based on the National Case-Shiller and NAHB's forecast of it as of 1/30/2014).
- Treatment of non-construction cost factors. Except for raw land, NAHB adds the items that the Census Bureau subtracts from the price of single-family homes to arrive at construction back into the input-output accounts. Landscaping is added to the construction industry input; appliances to household cooking appliance manufacturing; brokers fees to a subset of the real estate sector that NAHB separated from the rest of real estate using data from the Census Bureau's 2007 [Economic Census](#); half of finance & marketing to monetary authorities and depository credit intermediation, the other half to marketing research and other miscellaneous services.

- Other additions for single-family homes built for sale. Based on an analysis undertaken many years ago by HUD in conjunction with the Real Estate Settlement Procedures Act, NAHB adds approximately 0.5% of construction value to monetary authorities and depository credit intermediation; 0.1% to insurance agencies, brokerages, and related activities; and 0.3% to legal services, of insurance agencies, brokerages, and related activities to account for closing costs paid by the buyer (and therefore not directly embodied in the price of the home).
- Brokers fee for rental apartments 0.56% of construction value. NAHB discussions with brokers who sell multifamily properties indicate that the fee for a typical property is about 1.0% of the sale price. This is converted to a fraction of construction value and divided in two under the assumption that half of rental apartments are sold through brokers.

B. Federal Tax Rates

- Income tax rate on dividends: 15.00% (the statutory rate for qualified dividends that applies to most income brackets as of 2013).
- Base income tax rate on proprietors' profit: 26.46% (the effective rate paid by individual taxpayers with businesses income calculated from the IRS 2008 [Statistics of Income](#)), reduced by 1.64% to account for the fact that the extra 6.20% the self-employed pay in Social Security taxes is deductible).
- The SOI is also used to calculate a series of effective federal income tax rates based on annual income. These rates are applied to the average wage in each industry in the input-output accounts. The effective income tax rates range from 5.30% for employees of restaurants to restaurant workers to 19.70% for employees of certain financial investment businesses, and average 8.69% when aggregate tax payments are divided by aggregate wages and salaries across all industries.
- Employee contribution to social security is 6.20% of wages and salaries, the current statutory rate that applies up to wage income up to about \$110,000. Employee Medicare payment is the statutory rate of 1.45%. Due to a provision in the Affordable Health Care Act, those with incomes above \$200,000 now pay an additional 0.9%, but we assume this and the social security cut-off roughly offset, so the total employee contribution for government social insurance is 7.65% of wages. Proprietors contribution is double this rate, or 15.30%, of their profits.