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.