

## 2013 AHS: User Note regarding Home Improvement Data

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The American Housing Survey (AHS) is a longitudinal, biennial survey that returns to the same housing unit each survey year. The AHS collects a variety of information related to housing costs, quality, and characteristics. One of the topics covered in the AHS is whether home improvements projects were undertaken in the two years prior to the interview date and the costs incurred while performing those projects.

In some cases, a respondent may report a home improvement project in one interview period that they had also reported in the previous interview. If a project is found to have been previously recorded, it is removed from AHS tabulations.

In a typical survey year, the AHS interview period is from late April through September. As previously mentioned, the AHS collects home improvement information for the two years prior to the interview date. For example, if a respondent was interviewed in August of 2013, they would be asked about all the home improvement projects undertaken since August of 2011.

The 2013 data collection period was characteristic of a typical year (late April through September). However, the 2011 AHS data collection period was delayed three months due to budgetary reasons (data were collected from July through December).

As a result of this shift in collection months, respondents in 2013 were asked to report the home improvement projects they had done in the past two years, which overlapped with the 2011 collection months. It is important to note that this overlap would only occur for housing units that were previously included in the 2011 survey; housing units that were new to the 2013 sample would be unaffected by this shift in collection period.

This shift resulted in a higher proportion of respondents legitimately reporting the same home improvement project in both 2011 and 2013. Since the AHS does not count the same job twice, these previously-reported jobs were removed from 2013 tabulations.

### *Detailed Explanation*

While the 2011 interview period shift affected the months in which data were collected, the duration of the data collection period remained the same (i.e., 6 months). The table below shows how many jobs are identified as having been reported in the previous survey period.

Survey Year	Percent of Jobs Removed (Units with the Same Household in all Years)
2005	13.1%
2009	15.3%
2011	11.9%
2013	19.4%

NOTE: The 2007 data are not available for analysis at this time.

To illustrate, consider scenario 1 shown below where a respondent undertook one home improvement project in August of each year from 2008 through 2012, for a total of five home improvement projects. In this scenario, the respondent was interviewed for the AHS under normal data collection circumstances (July of 2009, 2011, and 2013). We see that the respondent reports each project and identifies it as occurring within the last two years. In this scenario, researchers estimating home improvement for 2009, 2011, and 2013 would produce results that are comparable among survey years.

Scenario 1. Projects Captured Under a Normal Data Collection Schedule

<b>Project Date</b>	2009 AHS Interview July 2009	2011 AHS Interview July 2011	2013 AHS Interview July 2013
August 2008	Kitchen		
August 2009		Bathroom	
August 2010		Basement	
August 2011			Living Room
August 2012			Dining Room

As noted above, the 2011 AHS was conducted three months later than planned due to budget issues. This revised data collection schedule may have caused longitudinal inconsistencies in home improvement project reporting. To illustrate the issue, consider an alternative scenario (#2) where the 2011 AHS interview is conducted in October 2011. In this scenario, the August 2009 Bathroom project would not have been reported in the 2011 survey because it was prior to the two-year survey window (i.e., October 2009 to October 2011). Moreover, the August 2011 Living Room project, which would normally not have been reported in a July 2011 interview, is now reported twice; first, in the October 2011 interview (two-year window of October 2009 to October 2011) and again in the July 2013 interview (two-year window of July 2011 to July 2013). Recall that projects reported in a prior survey are removed from the subsequent survey year.

Scenario 2. Projects Captured Under Actual 2011 Data Collection Windows with Perfect Recall

<b>Project Date</b>	2009 AHS Interview July 2009	2011 AHS Interview October 2011	2013 AHS Interview July 2013
August 2008	Kitchen		
August 2009			
August 2010		Basement	
August 2011		Living Room	<del>Living Room</del>
August 2012			Dining Room

In scenario 2, the Bathroom project is not captured by the AHS, but the 2011 estimate of remodeling is not necessarily wrong because it includes all projects completed “in the last two years.” A researcher comparing 2011 and 2013 estimates of project completions would find a lower rate of home improvement in 2013 because the Living Room project was captured in late 2011. If a researcher was conducting a longitudinal analysis of all remodeling projects completed at this home over the past 5

years, the total number of projects completed would be underestimated due to the missing Bathroom project.

The last scenario (#3) to consider is the scenario AHS managers deem more likely – a scenario where a respondent recalls all their projects, but does not have a perfect recall of when they occurred. In scenario 3, the respondent recalls the August 2009 Bathroom project, but incorrectly attributes it to the 2011 interview period (October 2009 to October 2011), whereas it should have been left out because it occurred in August 2009.

As a result, the 2011 estimate of home improvement is higher than it would have been had the data collection period been consistent, and the 2013 estimate is lower than would it have been had the data collection period been consistent.

Scenario 3. Projects Captured Under Actual Data Collection Windows with Imperfect Recall

<b>Project Date</b>	2009 AHS Interview July 2009	2011 AHS Interview October 2011	2013 AHS Interview July 2013
August 2008	Kitchen		
August 2009		Bathroom	
August 2010		Basement	
August 2011		Living Room	<del>Living Room</del>
August 2012			Dining Room

HUD and Census conducted a preliminary analysis and concluded that the most likely scenario is #3. In this scenario, estimates of home improvement in 2011 are likely higher than they would have been if the data collection window had remained constant between 2009, 2011, and 2013. Subsequently, estimates in 2013 are likely lower than they would have been, for the same reason. Still, AHS managers believe that, for each housing unit, it is likely that the combination of surveys in 2009, 2011, and 2013 identifies all home improvement projects.

Researchers comparing remodeling data between 2009 and 2011, and between 2011 and 2013, need to exercise caution in their interpretation of trends. At this time, users should not derive trends in home improvement projects completions (or other associated measure) between 2009, 2011, and 2013 due to the shift in data collection periods. HUD continues to explore the ramifications of the data collection period on the resulting home improvement estimates.