Household Income Trends:  
July 2012  

Issued September 2012  

Gordon Green and John Coder  
Sentier Research, LLC  

For Immediate Release on Monday, September 10, 2012
Household Income Trends:
July 2012

Copyright © 2012 by Sentier Research, LLC

Note

This publication is a monthly household income report for July 2012 based on data derived by Sentier Research from the Current Population Survey (CPS), the source of the nation’s official statistics on employment and unemployment. It does not contain any information on the characteristics of households. Readers who are interested in income changes by detailed household characteristics should consult our recent report, “Changes in Household Income During the Economic Recovery: June 2009 to June 2012,” which is available for purchase on our website (www.sentierresearch.com) for a price of $25.00 (USD). This earlier report focuses on household income changes during the recession that lasted from December 2007 to June 2009, and three full years of “economic recovery” lasting from June 2009 to June 2012. It shows household income changes during the recovery by a wide variety of demographic, social, and economic characteristics of households.

Summary of Findings

According to new data derived from the monthly Current Population Survey (CPS), real median annual household income did not change significantly between June 2012 and July 2012. Although the July 2012 median annual household income of $50,938 was $57 (or 0.1 percent) higher than the June 2012 median of $50,881, the change was not statistically significant at the 90-percent confidence level. (Income amounts in this report are before-tax money income and have been adjusted for inflation; income amounts are expressed in July 2012 dollars and have been seasonally adjusted, unless otherwise noted.)

The overall trend in real median annual household income since the beginning of this year has been relatively flat. With the exception of a 0.7 percent increase between April 2012 and May 2012, all of the other month-to-month changes in real median
annual household income since January 2012 have not been statistically significant. Prior to the beginning of the year, there was a decline in real median annual household income of 1.3 percent from December 2011 to January 2012. That decline followed several successive monthly increases in real median annual household income that occurred between August 2011 and December 2011.

The relatively flat trend in real median annual household income since the beginning of this year is indicative of a struggling economy. Even though we are technically in an economic recovery, real median annual household income is having a difficult time “recovering.” As we have noted in our previous reports, we are watching this household income series closely for signs of any sustained directional movement.

The July reading on the labor market from the U.S. Bureau of Labor Statistics indicated a generally worsening condition with one exception that is unclear. The unemployment rate in July 2012 was 8.3 percent, up slightly from 8.2 percent in June 2012. There appears to be significant improvement in the median duration of unemployment, which declined from 19.8 weeks in June 2012 to 16.7 weeks in July 2012. While this is apparently good news, it is unclear what factors may have resulted in this decline. The broader measure of employment hardship, which includes the unemployed, marginally attached workers (of which discouraged workers are a subset), and persons working part-time for economic reasons, inched up slightly from 14.9 percent in June 2012 to 15.0 percent in July 2012.

One factor that has helped to stabilize the level of real median annual household income has been the recent monthly declines in the Consumer Price Index (CPI). Although there are many factors affecting changes in real median annual household income over time, changes in consumer prices are a major contributor.

The monthly Consumer Price Index (CPI) has followed a downward trend from April 2012 to July 2012. The CPI fell by 0.1 percent between both April 2012 and May 2012 and May 2012 to June 2012, and by 0.2 percent between June 2012 and July 2012. This is in marked contrast to the experience of the past several months. There were four straight monthly increases in the CPI dating from the end of the last year: December 2011 to January 2012 (0.4 percent), January 2012 to February 2012 (0.4 percent), February 2012 to March 2012 (0.8 percent), and March 2012 to April 2012 (0.3 percent). These four monthly increases in the CPI followed three consecutive monthly declines in the CPI that occurred between September 2011 and December 2011. As we know, recent trends in prices have been heavily influenced by the sharp rise and subsequent fall in the price of fuel at the pump. Fuel prices have resumed their upward trend during August 2012, so it will be interesting to see the effect of inflation on income when the August 2012 income estimates become available later this month.

Because all of the income amounts in this series are shown after adjustment for changes in the CPI, the recent decline in prices has acted as an offset to weaker labor market effects when tracking monthly household income.

The median annual household income in July 2012 can be put into broader perspective by a comparison with previous levels of household income dating back to the start of the last decade. The July 2012
median annual household income of $50,938 was 4.6 percent lower than the median of $53,421 in June 2009, the end of the recent recession and beginning of the “economic recovery.” The July 2012 median was 7.1 percent lower than the median of $54,826 in December 2007, the beginning month of the recession that occurred more than four years ago. And the July 2012 median was 8.0 percent lower than the median of $55,380 in January 2000, the beginning of this statistical series. These comparisons demonstrate how significantly real median annual household income has fallen over the past decade, and how much ground needs to be recovered to return to income levels that existed more than ten years ago.

The Household Income Index (HII) shows the value of real median annual household income in any given month as a percent of the base value at the beginning of the last decade (January 2000 = 100.0 percent). The HII for July 2012 stood at 92.0, only marginally different from 91.9 in June 2012, and still lower than the December 2011 reading of 92.5. Before entering a period of very little change since the beginning of this year, the HII had increased steadily from August 2011 to December 2011: 89.3 in August, 90.5 in September, 91.4 in October, 92.1 in November, and 92.5 in December.

Three employment hardship measures—the unemployment rate, the median duration of unemployment, and a broad measure of employment hardship that groups the unemployed, marginally attached workers, and part-time workers who want full-time work—are contrasted against the HII in Figures 1, 2, and 3 below, respectively.

As shown in Figure 1, between June 2012 and July 2012, the unemployment rate edged up slightly from 8.2 to 8.3 percent. The unemployment rate is still much lower than the August 2011 level (9.1 percent), the month when the HII was at its lowest reading (89.3).

As shown in Figure 2, between June 2012 and July 2012, the median number of weeks unemployed decreased from 19.8 weeks to 16.7 weeks. As noted earlier, while this is apparently good news, it is unclear what factors may have resulted in this decline. The median number of weeks unemployed is significantly lower than the August 2011 level (21.8 weeks).

As shown in Figure 3, the broad measure of employment hardship in July 2012 (15.0 percent) was slightly higher than in June 2012 (14.9 percent). This broad measure of employment hardship is also significantly lower than the August 2011 level (16.2 percent).

Other economic factors, such as changes in average hourly earnings and average hours worked per week, have also had an effect on household income levels. At the start of the recession in December 2007, the average hourly earnings (expressed in July 2012 dollars) for all private employees were $23.18 per hour. After taking inflation into account during the recession and the economic recovery, average hourly earnings increased to $23.52 by July 2012. The average number of hours worked per week for all private employees was 34.6 hours in December 2007, falling to a low of 33.8 hours in June 2009, and then rebounding to 34.5 hours by July 2012 (all figures are seasonally adjusted from the U.S. Bureau of Labor Statistics based on the Current Employment Statistics survey).

The Nation’s official estimates of household income and poverty are released once a year by the U.S. Census Bureau. Official data derived from the March 2011 Current
Population Survey Annual Social and Economic Supplement (CPS ASEC) that relate to annual income received during calendar year 2010 were released on September 13, 2011. These are the most recent statistics on annual income that are currently available from the U.S Census Bureau. Updated income estimates for calendar year 2011 are scheduled to be released on September 12, 2012.

While the U.S. Census Bureau provides the most accurate measures of both the level and change in household income, the new series presented in this report provides an interim measure that tracks income changes on a monthly basis, an attribute that is especially important during periods of economic instability. As demonstrated in this and our previous reports, the new monthly series has the ability to track household income changes during the specific months of important economic events, such as the recession and the economic recovery, that do not coincide neatly with calendar year boundaries.
Data Sources and Estimation Methods

This study is based on data collected in the Current Population Survey (CPS), the same household survey used to derive the official monthly unemployment rate. Data have been compiled from each monthly survey taken since January 2000 (as of July 2012, 151 surveys in total). Each of these surveys collected data for a nationally representative sample of more than 50,000 interviewed households and their respective members (approximately 135,000 per month). The survey collects the detailed information needed to determine the employment characteristics of all civilians age 16 years old and over and to compute the official unemployment rate. It also collects key demographic and social characteristics for all household members, including children. Some of these are as follows:

- Age
- Gender
- Relationship to householder (i.e. spouse, own child, grandchild, nonrelative, etc.)
- Race and ethnicity
- Educational attainment
- Veteran’s status (era of past membership in the armed forces)
- Presence of disabilities
- Citizenship
- Country of birth

Estimates of household income from the survey are based on a single question that asks respondents to report the total money income received by the household during the previous 12-month period. The definition of income used in the survey includes the following:

- Wages and salary
- Nonfarm self-employment income
- Farm self-employment income
- Social Security and Supplemental Security Income
- Interest, dividends, net rental income, and royalties
- Cash public assistance (federal and state)
- Unemployment compensation and workers’ compensation
- Retirement income from pensions, annuities, other retirement plans
- Veterans’ pensions and compensation
- Child support and alimony
- Other cash income excluding capital gains or lump sum, one-time amounts

The total amount of household income before taxes is recorded in one of 16 categories as shown below:

- Under $5,000
- $5,000 to $7,499
- $7,500 to $9,999
- $10,000 to $12,499
- $12,500 to $14,999
- $15,000 to $19,999
- $20,000 to $24,999
- $25,000 to $29,999
- $30,000 to $34,999
- $35,000 to $39,999
- $40,000 to $49,999
- $50,000 to $59,999
- $60,000 to $74,999
- $75,000 to $99,999
- $100,000 to $149,999
- $150,000 and over

The raw data collected for each household member in the survey must be aggregated and summarized at the household level in order to generate the household statistics underlying this analysis. Householders are
identified in order to compute statistics that relate to characteristics of the householder. Counts of the number of household members, number of children, and number of earners are computed by examining each household member’s detailed information. Missing responses to the question on household income are imputed using statistical matching techniques in order to adjust for any nonresponse bias. Procedures for imputing missing responses are based on the same methodology used by the U.S. Census Bureau for the Annual Social and Economic Supplement (CPS ASEC), the source for official estimates of annual income, poverty, and health insurance coverage. There are some reporting differences when asking for total household income as compared to using the CPS ASEC supplemental questionnaire, which asks a detailed series of questions on the receipt of income during the previous calendar year. We have made adjustments to correct for bias caused by these differences. The U.S. Census Bureau’s estimates for calendar year 2010 were released on September 13, 2011. That release does not include any monthly trend data, and does not report on income developments during 2011 and 2012.

All statistics shown in this analysis are based on weighted sample data. The survey for each month includes a sample weight for each household. The sum of these weights across all sample households provides a national estimate of the total number of households existing for that month. When summed these weights also provide estimates of the number of households by characteristics such as race, age, gender, presence of unemployed, etc.

Estimates shown in this report may differ from actual values because of both sampling variability and nonsampling error. Sampling variability occurs because responses are obtained from a sample of the population (50,000 interviewed households) rather than from a full census. Nonsampling error can occur from a variety of factors. Households may report incorrect information when answering questions about the total amount of household income received during the past 12 months prior to the interview. When a respondent forgets the exact dates for a sequence of events this can result in a known survey bias called "telescoping," in which the reporting of the events is telescoped either forward or backward.

The telescoping phenomenon may be especially relevant in situations where household members become unemployed or find a job after a significant period of unemployment. For example, a respondent who recently found a job following a long period of unemployment may erroneously include the annual salary from the new job when responding to the household income question in the CPS that should be restricted only to income received during the 12-month period prior to the survey month. Similarly, respondents with Social Security income may use their current monthly Social Security benefit to compute annual household income during the previous 12-month period even though the current monthly amount reflects the first month following a cost-of-living adjustment.

The Consumer Price Index (CPI-U) for all urban consumers has been used to make adjustment for changes in prices where noted in the tables and text of the report.

The Household Income Index (HII) has been seasonally adjusted to reduce seasonal differences in the reporting of household income. Various factors may contribute to seasonal difference in the way households
report their incomes in the CPS. Earlier studies by the U.S. Census Bureau have shown that reports of household income tend to rise as the survey month approaches the April tax-filing period. This trend, while apparent in surveys of the 1980’s and early 1990’s, is less pronounced in more recent years. Seasonal adjustments are made using the X-12-ARIMA software. This software was developed by the U.S. Census Bureau and is the same software used to create adjustment factors for monthly employment and unemployment series released by the U.S. Bureau of Labor Statistics.

The household income estimates in this report reflect modifications made as part of annual benchmarking adjustments that refine the procedures used for imputing missing survey responses to the income questions, improve the methods used for estimating the level of household income, and update the factors used for making seasonal adjustments to the time series data. These modifications were introduced into the estimates beginning with the January 2012 monthly report. Therefore, the income estimates in this report may differ slightly from those that appeared in reports prior to January 2012. These various adjustments result in a trend line in real median annual household income, and the corresponding Household Income Index (HII), that closely resembles the previously published trend line. (See the January 2012 monthly report for a comparison of the trend lines.) Similar benchmarking adjustments will be made in January of each year as part of an effort to introduce continuous improvements into the household income data series.

The July 2012 estimates reflect new population controls based on the 2010 Decennial Census results. These controls are used to “weight” the survey observations so that they reflect the population by detailed demographic subgroups. Introduction of the new survey weights to reflect the latest Census results is standard operating procedure for the CPS. Traditionally their introduction has had only very minor effects on comparisons of median incomes but may have some small effects on estimated numbers of households. The new population controls were introduced in January 2012 for the CPS.
About the Authors

**Gordon Green** is a former Chief of the Governments Division at the U.S. Census Bureau and a member of the Senior Executive Service (SES). For many years at the U.S. Census Bureau, he directed work on the Nation’s official income and poverty statistics program. He received a Ph.D. in economics from The George Washington University in 1984. He is author of the book, *Making Your Education Work for You* (Forge, 2010), which shows students how to make top grades in high school and college and engage in effective job planning. He is also author of the book, *How to Get Straight A’s in School and Have Fun at the Same Time* (Forge, 1999), which is intended for younger students. Additional information is available at: [www.gordonwgreen.com](http://www.gordonwgreen.com)

**John Coder** is a former Chief of the Income Statistics Branch at the U.S. Census Bureau. While at the U.S. Census Bureau he directed collection and processing of income and related data collected in the March Current Population Survey (CPS) and was instrumental in developing new methods for imputing missing survey responses. He also was founder of the U.S. Census Bureau’s Small Area Income and Poverty Estimates Program. He played a key role in developing the Luxembourg Income Study, which is a data center for making cross-national comparisons, available at the website: [www.lisdatacenter.org](http://www.lisdatacenter.org)

The authors gratefully acknowledge the valuable assistance provided by Anne Fengyan Shi in preparing this report. She received a Ph.D. in government from Georgetown University in 1999, and has been a social science researcher ever since.
Figure 1.
Median Household Income Index (HII) and Unemployment Rate by Month: January 2000 to July 2012

Sources: For income data: Sentier Research, LLC estimates of annual household income derived from the monthly Current Population Survey (CPS) conducted by the U.S. Census Bureau; for the unemployment rate and the CPI-U: the U.S. Bureau of Labor Statistics.
Figure 2.
Median Household Income Index (HII) and Median Duration of Unemployment by Month, January 2000 to July 2012

Sources: For income data: Sentier Research, LLC estimates of annual household income derived from the monthly Current Population Survey (CPS) conducted by the U.S. Census Bureau; for the median duration of unemployment and the CPI-U: the U.S. Bureau of Labor Statistics.
Figure 3.
Median Household Income Index (HII) and Percent Unemployed, Marginally Attached, or Working Part-time for Economic Reasons by Month, January 2000 to July 2012

Sources: For income data: Sentier Research, LLC estimates of annual household income derived from the monthly Current Population Survey (CPS) conducted by the U.S. Census Bureau; for the percent unemployed, marginally attached, or working part-time for economic reasons and the CPI-U: the U.S. Bureau of Labor Statistics.