

# Lagging Teen Employment in a Strong Bay State Labor Market

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## Introduction

More than six years after the recovery from the Great Recession of 2007-2009, Massachusetts' overall economy and labor markets have improved markedly. Since 2010, the state has added more than 400,000 non-farm payroll jobs. In the first three months of 2017, the unemployment rate in the state has fallen to 4.4 percent, halved from a peak unemployment rate of more than 8 percent in 2010. From the second quarter of 2009 to the third quarter of 2016, the real GDP of the state has increased by \$59.8 billion. In recent years, real wages have also started to rise after remaining flat for many years since the Great Recession.<sup>1</sup> The employment-population ratios of working-age adults in the state have improved after reaching bottom in 2010-2011. However, the gain in employment has not been uniform across age groups. The youngest workers (16-to-19 years old) have not been able to capture the full benefits from an improved overall economy and labor market. The employment-population ratio of teens has remained stagnant in Massachusetts over the 2010-2011 and 2015-2016 period.

Part-time, year-round and summer month employment opportunities for teens are very important. Work experience is a form of human capital investment that has favorable future employment and earnings impacts. From early age employment, teens develop non-cognitive employability skills such as punctuality, team work, problem solving, communication, working under supervision, and customer service. These are very important skills at work. Teen employment is highly path dependent—meaning the more teens work today, the more likely they will work tomorrow. Evidence show that teens, particularly from poor families, who work during the summer are more likely to work part-time after the summer, more likely to persist and finish high school, more likely to enroll in college and graduate, and more likely to be employed with higher earnings. This early employment experience gives them an advantage in the labor market. Summer jobs are particularly crucial for teens from disadvantaged families. Some research shows that teens from poor families who do not work in the summer are more likely to engage in delinquent behavior and become involved in the criminal justice system. Female teens from poor families who do not work are more likely to become teen mothers than those who work.

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<sup>1</sup> The Occupational Employment Statistics (OES) surveys from the U.S. Bureau of Labor Statistics show that the real median hourly wages of workers in Massachusetts increased by 3.4 percent over the May 2014-May 2016 period.

This research report assesses the year-round and summer employment experiences of teens in Massachusetts and the U.S. over the past 4 decades (1978-1979 to 2015-2016). The report begins with an examination of the trends in annual employment-population ratios of teens over the 1978-1979 to 2015-2016 time period. The decline in employment prospects over the 1999-2000 to 2015-2016 period is examined for all teens and teens by sub-group (gender, race-ethnicity, and educational attainment groups). Did employment prospects improve for Massachusetts teens after the recovery from the Great Recession? To assess whether this was the case, we compare employment-population ratios of sub-groups of teens over the 2010-2011 and 2015-2016 period. This section of the report is followed by an examination of historical employment rates of Massachusetts teens in the summer months of 1978-1979 to 2015-2016.

## **Declining Year-Round Employment Opportunities for Teens in Massachusetts Over the Past 4 Decades**

Massachusetts was one of the leading states in the nation in employing teens in the late 1970s, 1980s, and 1990s. The annual average employment-population ratio of Massachusetts teens in 1978-1979 was 55 percent and remained at that same level to 1988-1989. Massachusetts' teen employment-population ratio in both time periods exceeded the employment-population ratios of teens across the U.S. by 6 to 7 percentage points (Table 1). In 1978-1979 and 1988-1989, Massachusetts' teen employment-population ratio ranked 15<sup>th</sup> and 12<sup>th</sup> highest, respectively, among the 50 states and D.C. By the late 1990s, when the state's labor market was at its peak, slightly more than half (51 percent) of Massachusetts teens worked, a slightly lower working rate than in late 1970s and 1980s. Still, Massachusetts' teen employment-population ratio was 5 percentage points higher than their peers across the nation and ranked 17<sup>th</sup> highest among the states.

After the brief technology-led recession of 2001, the employment-population ratios of teens in Massachusetts and across the entire nation began to decline sharply. During the jobless recovery of 2002-2004, the teen employment rate continuously declined. By 2006-2007, the employment-population ratios of teens in Massachusetts had dropped to 39 percent, which was only 2 percentage points higher than those of teens across the nation. Massachusetts was no longer a leader in employing teens—the employment-population ratio ranking fell among the states to the middle, 26<sup>th</sup>. The Great Recession of 2007-2009 further deteriorated teens' employment prospects

in Massachusetts and across the nation. In 2010-2011, teen employment-population ratios in both Massachusetts and the U.S. had reached historical lows. In Massachusetts, only 31 percent of teens were working in 2010-2011 and more than one-quarter of teens worked across the U.S. In 2010-2011, teen employment rates across the states ranged from lows of 13 to 20 percent to highs of 44 to 46 percent. Although Massachusetts’ teen employment rate in 2010-2011 reached an historical low, it was still 5 percentage points higher than the historical low for teens across the nation. Massachusetts’ ranking in 2010-2011 on this measure was 19<sup>th</sup> highest among the states. In recent years, year-round teen employment-population ratios of U.S. teens have increased in the range of 3 to 4 percentage points from their lowest level in 2010-2011. In contrast, Massachusetts year-round employment-population ratios of teens have in recent years have remained more or less the same since 2010-2011. In 2015-2016, nearly 32 percent of teens across the state worked, which was 2.3 percentage points higher than the employment rate of teens across the U.S. Massachusetts’ teen employment-population ratio ranked 23<sup>rd</sup> highest among the states (Table 1).

Table 1:  
Employment-Population Ratios of Teens (16-19 Years Old) in Massachusetts and the U.S.,  
Selected Years 1978-1979 to 2015-2016 (Annual Averages, in Percent)

Time Period	MA	U.S.	MA - U.S.	MA Rank Among States
1978-1979	55.2	49.0	+6.2	15 <sup>th</sup> highest
1988-1989	54.6	47.3	+7.3	12 <sup>th</sup> highest
1999-2000	50.9	45.4	+5.4	17 <sup>th</sup> highest
2006-2007	39.0	36.6	+2.4	26 <sup>th</sup> highest
2010-2011	31.5	26.5	+4.9	19 <sup>th</sup> highest
2015-2016	31.9	29.6	+2.3	23 <sup>rd</sup> highest

Source: Monthly Current Population Survey, public use files, two-year averages 1978-1979, 1988-1989, 1999-2000, 2006-2007, 2010-2011, and 2015-2016, U.S. Census Bureau, tabulations by authors.

Over the past 16 years, the employment opportunities for teens in both Massachusetts and the U.S. have diminished sharply. Teens across gender, race-ethnic, and educational attainment groups have experienced substantial declines in employment prospects. For all teens in Massachusetts, the employment-population ratio over the 1999-2000 and 2015-2016 period declined by nearly 19 percentage points—the largest decline among working-age adults (Table 2 and Chart 1). This drop was much higher than for their peers across the nation; a 16 percentage point decline over the same time period. Female teens in Massachusetts experienced a greater

decline in their employment-population ratio than their male peers over the 1999-2000 and 2015-2016 time period (-20 percentage points versus -18 percentage points). In both time periods, female teens in the state were more likely to be employed than their male peers. Both male and female teens in Massachusetts experienced greater declines in their employment-population ratios than their counterparts nationwide. Massachusetts is the most highly educated state in the nation and these declines may reflect, in part, more teens persisting through high-school and continuing with 2-year and/or 4-year postsecondary education.

Table 2:  
Trends in Employment-Population Ratios of Teens (16-19 Years Old) in Massachusetts and the U.S., Selected Years 1999-2000 to 2015-2016 (Annual Averages, in Percent)

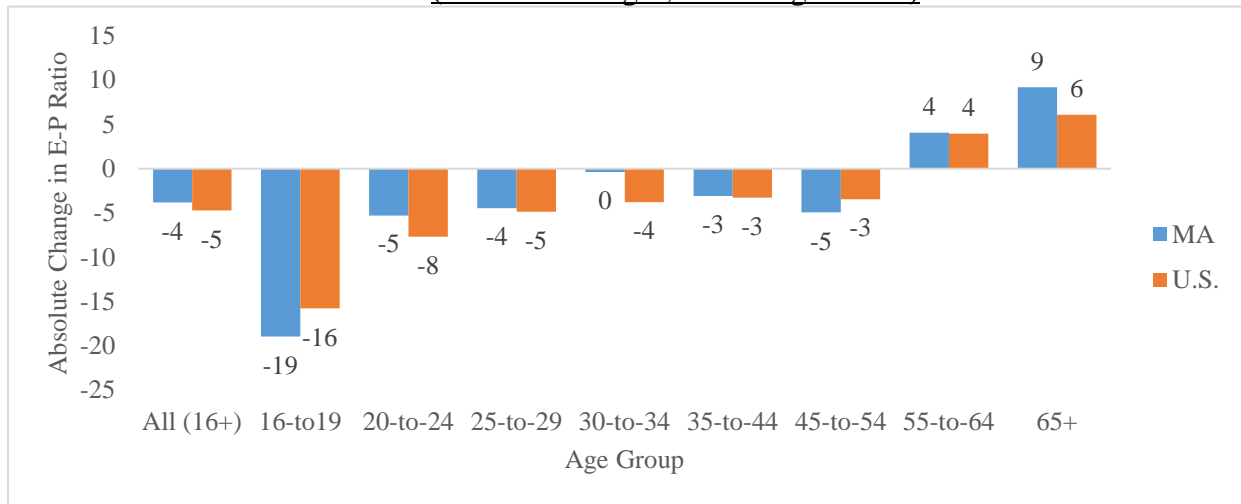
Group	Massachusetts			U.S.		
	1999-2000	2015-2016	Change	1999-2000	2015-2016	Change
All	50.9	31.9	-18.9	45.4	29.6	-15.8
<b>Gender</b>						
Male	48.2	30.1	-18.1	45.7	28.8	-16.8
Female	53.7	33.8	-19.9	45.2	30.5	-14.7
<b>Race-Ethnic Group</b>						
White	54.3	35.4	-18.9	52.0	34.3	-17.7
Black	31.4	28.8	-2.6	29.4	21.7	-7.7
Asian	42.1	22.2	-19.9	31.0	18.8	-12.2
Hispanic	43.7	26.4	-17.2	38.0	25.7	-12.3
All Other Races	--	--	--	36.2	29.4	-6.8
<b>Educational Attainment Levels</b>						
HS Students	44.8	22.7	-22.1	34.6	18.0	-16.6
HS Dropouts	53.1	46.4	-6.8	49.9	35.0	-14.9
College Students	44.3	27.6	-16.7	49.0	37.2	-11.8
Non-Enrolled HS Grad	77.8	65.0	-12.8	72.7	60.2	-12.4

Source: Monthly Current Population Survey, public use files, two-year averages 1999-2000 and 2015-2016, U.S. Census Bureau, tabulations by authors.

Among teens in the major race-ethnic groups in Massachusetts, the employment-population ratio declines over the 1999-2000 and 2015-2016 period ranged from a low of 2.6 percentage points among Black teens to 19 to 20 percentage points among White and Asian teens. In both time periods, White teens had the highest employment-population ratio while Black and Asian teens had the lowest employment-population ratios. In both Massachusetts and the entire U.S., Black teens' employment rate declines over the 1999-2000 and 2015-2016 period were

smallest, as Black teens had the lowest employment-population ratios in both time periods (Table 2).

**Chart 1:**  
**Absolute Change in Employment-Population Ratios of Persons 16 Years and Older by Age Group, Massachusetts and the U.S., 1999-2000 and 2015-2016**  
**(Annual Averages, Percentage Points)**



**Source:** Monthly Current Population Survey, public use files, two-year averages 1999-2000 and 2015-2016, U.S. Census Bureau, tabulations by authors.

Massachusetts teens in each educational attainment group experienced a steep drop in their employment opportunities over the past 16 years; however the largest drop in employment-population ratio over the 1999-2000 and 2015-2016 period occurred for teens who were high school students. In 1999-2000, nearly 45 percent of teens who were high school students in Massachusetts were employed. By 2015-2016, only 23 percent of teens in this group were employed, a massive 22 percentage point decline in employment-population ratio. In the entire U.S., teens in this educational group experienced a decline of nearly 17 percentage points in employment-population ratios over this time period—the largest drop among teens in the four educational attainment groups. Among Massachusetts teens who were high school dropouts, the employment-population ratio decline over the 1999-2000 and 2015-2016 time period was nearly 7 percentage points, which was much smaller than for teens across the U.S. (-15 percentage points). Teen college students in Massachusetts also experienced a nearly 17 percentage point drop in their employment-population ratios over the 1999-2000 and 2015-2016 time period—a much larger drop than their peers across the U.S. (-11.8 percentage points). High school graduates, not enrolled in college, tend to work at the highest rate than their peers in the other three educational attainment

groups. Nearly 77 percent of teens in this educational attainment group in Massachusetts worked in 1999-2000. By 2015-2016, however, their employment-population ratio had declined by nearly 13 percentage points to 65 percent. Teens across the U.S. experienced a similar size decline in employment over this time period, as well.

Did employment prospects for teens improve after the economic recovery from the Great Recession? To look into this issue, we examined employment-population ratios of teens in Massachusetts and the U.S. over the 2010-2011 and 2015-2016 time period. Across the U.S., the employment prospects of teens have improved modestly over the past few years after reaching historical lows during 2010-2011. Although Massachusetts teens were employed at higher rates than their peers nationwide, their employment-population ratios over the 2010-2011 and 2015-2016 period have remained stagnant. In both time periods, 31 to 32 percent of Massachusetts teens worked (Table 3). The employment-population ratio of teens in the U.S. has increased from 26.5 percent in 2010-2011 to 29.6 percent in 2015-2016, an increase of 3 percentage points. Male teens in Massachusetts experienced a 3.3 percentage point increase in employment-population ratio over 2010-2011 and 2015-2016, while female teens' employment-population ratio was 2.5 percentage points below the 2010-2011 level. Thus, the stagnant teen employment-population ratio in Massachusetts was attributable to the decline in female teens' employment-population ratio over this time period. In contrast, both male and female teens across the U.S. experienced 2 to 3 percentage point increases in their employment-population ratios over this time period.

Among teens in the four major race-ethnic groups in Massachusetts, Asian, Black, and Hispanic teens had their employment-population ratio increase in the range of 4 to 7 percentage points over the 2010-2011 and 2015-2016 time period. There was no improvement in the employment-population ratio of White teens in Massachusetts over this time period. Across the U.S., employment-population ratios of teens in the five major race-ethnic groups increased in the range of 2 to 8 percentage points during this same time period. Among Massachusetts teens in the four educational attainment groups, only high school dropouts experienced an increase in their employment-population ratio. Teens who were in high school or college experienced declines in their employment-population ratios over the 2010-2011 to 2015-2016 time period. In contrast, each group of teens across the U.S. in the four educational attainment levels experienced an increase in their employment-population ratios over this same time period (Table 3). It is possible that many youth employment programs in the state focusing on at-risk teens (low-income, out-of-

school, etc.) and young people of color are having the desired effect in improving or stabilizing the employment prospects for these young adults.

Table 3:  
Trends in Employment-Population Ratios of Teens (16-19 Years Old) in Massachusetts and the U.S., Selected Years 2010-2011 to 2015-2016 (Annual Averages, in Percent)

Group	Massachusetts			U.S.		
	2010-2011	2015-2016	Change	2010-2011	2015-2016	Change
All	31.5	31.9	+0.5	26.5	29.6	+3.1
<b>Gender</b>						
Male	26.9	30.1	+3.3	25.3	28.8	+3.5
Female	36.2	33.8	-2.5	27.8	30.5	+2.7
<b>Race-Ethnic Group</b>						
White	36.5	35.4	-1.1	32.0	34.3	+2.3
Black	23.7	28.8	+5.1	15.6	21.7	+6.1
Asian	14.6	22.2	+7.6	16.6	18.8	+2.2
Hispanic	22.9	26.4	+3.6	21.2	25.7	+4.4
All Other Races	--	--	--	21.2	29.4	+8.2
<b>Educational Attainment Levels</b>						
HS Students	23.7	22.7	-1.0	16.2	18.0	+1.8
HS Dropouts	27.3	46.4	+19.1	29.6	35.0	+5.4
College Students	35.8	27.6	-8.3	36.1	37.2	+1.2
Non-Enrolled HS Grad	64.1	65.0	+0.9	53.7	60.2	+6.6

Source: Monthly Current Population Survey, public use files, two year averages 2010-2011 and 2015-2016, U.S. Census Bureau, tabulations by authors.

Teen employment rates and family income levels are positively associated. Teens from affluent families tend to work at much higher rates in both summer months and year-round than teens from low-income families. This is true for teens in Massachusetts as well as teens across the nation (Table 4). In Massachusetts, the employment-population ratio of teens residing in families with annual incomes below \$40,000 increased 5 to 6 percentage points over the 2010-2011 and 2015-2016 period. It is somewhat puzzling that teens in families with “middle” incomes between \$40,000-\$59,999 and \$75,000-\$99,999 experienced a drop in employment-population ratios over this time period. In contrast, employment-population ratios for teens from affluent families (>\$150,000 and over) increased by 4 percentage points over this time period. For the entire U.S., employment-population ratios of teens in each of the family income categories increased in the range of 1 to 4 percentage points (Table 4).



Table 4:  
Trends in Employment/Population Ratios of Teens (16-19 Years Old) in Massachusetts and the  
U.S. by Family Income Level, Selected Years 2010-2011 to 2015-2016  
(Annual Averages, in Percent)

Family Income Level	MA			U.S.		
	2010-2011	2015-2016	Abs. Change	2010-2011	2015-2016	Abs. Change
Under \$20,000	20.5	26.1	+5.6	20.1	21.7	+1.5
\$20,000-39,999	30.1	35.0	+4.8	22.9	27.4	+4.5
\$40,000-\$59,999	33.7	26.9	-6.7	28.0	30.0	+2.0
\$60,000-\$74,999	26.9	30.5	+3.6	29.8	32.5	+2.6
\$75,000-\$99,999	40.9	30.0	-10.9	32.4	34.5	+2.1
\$100,000-\$149,999	38.1	39.3	+1.2	31.5	34.8	+3.3
\$150,000+	27.9	32.0	+4.1	26.8	28.9	+2.1

Source: Monthly Current Population Survey, public use files, two year averages 2010-2011 and 2015-2016, U.S. Census Bureau, tabulations by authors.

## Declining Summer Employment Opportunities for Teens in Massachusetts Over the 1978-1979 and 2015-2016 Period

Not only have year-round employment prospects for teens in Massachusetts and the U.S. diminished over the past 16 years, but their employment prospects in the summer months have also diminished equally. In summer months when schools are closed, teens aspire to work. For this reason, historically, teens across the nation worked at higher rates during the summer months than during non-summer months. For teens and young adults, summer jobs provide exposure to the world of work and help them develop the occupational and soft skills needed at work. There is evidence that jobless youth during the summer months are more likely than their employed peers to commit violent crimes, to be in risk of social isolation, and to get involved in risky, deviant, delinquent, and violent behaviors.<sup>2</sup> Evidence also reveals that summer job programs reduced violent crimes by African-American teens.<sup>3</sup> It is a sad fact that given such positive impacts of

<sup>2</sup> See: (i). Andrew Sum, Mykhaylo Trubskyy, and Walter McHugh, “The Summer Employment Experiences and the Personal/Social Behaviors of Youth Violence Prevention Employment Program Participants and Those of a Comparison Group”, Center for Labor Market Studies, Northeastern University, Prepared for Youth Violence Prevention Funder Learning Collaborative, Boston, July 2013.

<sup>3</sup> See: Sara B. Heller, "Summer jobs reduce violence among disadvantaged youth", *Science*, Vol 346, 5 December 2014; Gelber Alexander, Adam Isen, Judd B. Kessler, *The Effects of Youth Employment: Evidence From New York City Summer Youth Employment Program Lotteries*, NBER Working Paper 20810, December 2014.

summer employment among teens, the summer job prospects have diminished in Massachusetts and across the entire U.S. since 2000.

Table 5 displays historical summer month employment-population ratios of teens in Massachusetts and the U.S. from 1978-1979 through 2015-2016. During the summer months of 1978-1979 and 1988-1989, two-thirds of teens in Massachusetts worked. Massachusetts teens were 8 to 9 percentage points more likely to have worked in the summer months than their U.S. peers during these years. Massachusetts summer month teen employment-population ratios in 1978-1979 and 1988-1989 ranked 20<sup>th</sup> and 15<sup>th</sup> highest, respectively, among the 50 states and D.C. By the summers of 1999-2000, more than 60 percent of Massachusetts teens worked—a much lower rate than in 1978-1979 and 1988-1989, but 9 percentage points above the national average rate for teens.

Table 5:  
Summer Month Employment/Population Ratios of Teens (16-19 Years Old) in Massachusetts and the U.S., Selected Years 1978-1979 to 2015-2016 (June-July-August Averages, in Percent)

Time Period	MA	U.S.	MA - U.S.	MA Rank Among States
1978-1979	66.0	58.3	+7.8	20 <sup>th</sup> highest
1988-1989	66.3	57.0	+9.4	15 <sup>th</sup> highest
1999-2000	61.1	51.9	+9.3	18 <sup>th</sup> highest
2006-2007	52.1	42.1	+10.1	16 <sup>th</sup> highest
2010-2011	39.2	30.5	+8.7	20 <sup>th</sup> highest
2015-2016	43.5	34.0	+9.5	18 <sup>rd</sup> highest

Source: Monthly Current Population Survey, public use files, two-year averages 1978-1979, 1988-1989, 1999-2000, 2006-2007, 2010-2011 and 2015-2016, U.S. Census Bureau, tabulations by authors.

The summer months and year-round employment-population ratios started to decline after the brief technology-led recession of 2001. By 2006-2007, only 52 percent of Massachusetts teens were working in the summer. Massachusetts’ teen summer employment rate was still 10 percentage points higher than their peers across the nation (52 percent versus 42 percent). During and after the Great Recession of 2007-2009, summer employment prospects for teens were historically low. In the summer months of 2010-2011, only 39 percent of teens in Massachusetts were employed, the lowest rate ever for which teen employment data are available. Nationally, only 30 percent of teens held jobs in summer months of 2010-2011. In the recent summers of 2015-2016, employment-population ratios of both Massachusetts and U.S.

teens have improved modestly from their lowest levels in 2010-2011. Slightly more than 43 percent of Massachusetts teens were working in the summers of 2015-2016. Massachusetts teens were 9 percentage points more likely than their peers across the nation to be employed in the summer (Table 5). Massachusetts summer teen employment-population ratio ranked 18<sup>th</sup> highest among the 50 states and D.C.

Employment prospects for teens in Massachusetts for the summer months of 2017 are expected to be better than earlier years, particularly in the context of an overall low unemployment rate in the state and tightening labor market. Nationally, more than 31 percent of teens are projected to work in summer months of 2017.<sup>4</sup>

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<sup>4</sup> See annual summer employment outlook report from the Center for Labor Markets and Policy, Drexel University, "2017 Summer Employment Outlook for U.S. Teens", link....

## Data Sources and Methodology

Estimates of labor force statistics appearing in this report are based on the monthly Current Population Survey (CPS), a national household survey, conducted by the U.S. Census Bureau for the U.S. Department of Labor's Bureau of Labor Statistics. Every month, the CPS survey is conducted from the 19<sup>th</sup> to 25<sup>th</sup> of the month with a nationally representative sample of approximately 60,000 households.<sup>5</sup> The survey asks household members about their labor force status in the "reference week", the week prior to the day of interviews (12<sup>th</sup> to 19<sup>th</sup> of the month). The CPS collects data on the current labor force activities of all household members 16 and older, including their employment, unemployment status, hours worked, industry and occupation of employment etc. The CPS survey is the official source of data on the labor force, income, and poverty in the U.S. The monthly CPS also add supplemental questions to household members in particular month to get detailed information on various important topics such as the annual social and economic characteristics, education and school enrollment, food security, fertility and marriage, tobacco use, computer and internet use, voting and registration, volunteering, veterans etc. These CPS supplemental topics are known as CPS supplement surveys.

To assess the labor market well-being of the teenage (16-19) population in Massachusetts and the U.S., we have relied primarily on the employment to population ratio measure in this paper. The employment to population (E/P) ratio measures the percent of a population group (in this instance 16 to 19 year-olds) in the civilian, non-institutional population that were employed in an average month during the year. The denominator excludes persons serving in the nation's armed forces and inmates of institutions, such as juvenile homes, jails, and prisons. Employment to population ratio is the best available indicator to gauge the labor market success of teens.

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<sup>5</sup> For detail, see: U.S. Census Bureau. Current Population Survey: Interviews Reference Manual, April 2015, retrieved, [http://www2.census.gov/programs-surveys/cps/methodology/intman/CPS\\_Manual\\_April2015.pdf](http://www2.census.gov/programs-surveys/cps/methodology/intman/CPS_Manual_April2015.pdf)