

# The 2017 Summer Job Outlook for American Teens

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## Contents

Introduction.....	1
Trends in Employment-Population Ratios of Working-Age Adults (16+) and Teens (16-19), 1999-2016 .....	3
Changing Patterns of Teen Employment .....	4
Modest Improvement in Teen Employment Opportunities in Summer Months of Recent Years .....	8
Which Group of Teens Improved Their Employment-Population Ratio Over the 2010-2011 and 2015-2016 Period? .....	10
Geographic Variations in the Employment-Population Ratios of Teens During the Summer Months of 2010-2011 and 2015-2016.....	12
The Projected Summer 2017 Job Outlook for U.S. Teens.....	15
Data Sources and Methodology .....	17

## Introduction

More than six years after the recovery from the Great Recession of 2007-09, the nation's overall economy and labor markets have improved markedly. Since 2010, the U.S. has added more than 16 million non-farm payroll jobs and in recent months the real wages of payroll workers have finally started rising after years of wage stagnation following the Great Recession. The nation's 2017 first quarter unemployment rate averaged just 4.7 percent, halving the peak unemployment rate of 9 to 10 percent observed in 2009 and 2010 during the Great Recession. The number of job vacancies ready to be filled has reached 5.6 million during the first two months of 2017, more than doubling in volume since the bottom of the 2009-2010 recession. The ratio of unemployed workers to vacant jobs fell to just 1.3 job seekers for every vacant job ready to be filled by the beginning of this year. This 1.3 to 1 ratio is the lowest unemployment to vacancy ratio since the end to the Reagan-Clinton era of rapid economic growth and a signal that the nation's labor market is near a full-employment level given the near equality between the number of unemployed persons and the number of vacant jobs.

The employment-population ratios (sometimes called the employment rate or E/P) of working-age adults, that is, the share of working-age persons with a job, in the U.S. have improved modestly, rising to 60 percent in the first quarter of 2017 after reaching its lowest level in 2010-2011. However, the recovery in the nation's labor market has been very uneven; young people have struggled to improve their employment rates, even as the share of older workers (aged 55+) with a job has risen sharply as the nation's labor market has rebounded. The pace of improvement in the teen employment-population ratio has lagged well behind both prime-age workers (aged 25 to 54) as well older workers (aged 55+). Even as the U.S. labor market reached a near full employment condition, teens are still facing difficulty in finding employment – any type of employment: full-time or part-time and year-round or while in school.

During summer months 16- to 19-year-olds across the nation enter the labor market in droves, but despite the great improvement in general labor market conditions, the outlook for summer jobs this year is, sadly, not much improved. The chance to work affords teens and young adults with a variety of opportunities to develop skills that add to their future productive abilities. Compensated work experience where teens earn wages paid by employers in proportion to their

contribution to the firm, helps teens accumulate human capital in several ways by exposing them to the world of work where they learn essential job and career skills.

- Work experience provides young people with social skills like learning to work with other staff and supervisors in an adult context, meet and deal with adult customers, and develop relevant skills to negotiate these relationships at work.
- Work experiences also afford teens a context to understand the behavioral traits such as dependability and integrity that employers seek in entry-level workers that are also important across all occupations and careers in the labor market. Work provides teens with important proficiencies and behavioral traits that are the building blocks of their adult careers. Proficiencies and behavioral traits are often acquired through working and osmosis-like learning on the job.

Early work experience allows young workers to develop these basic behaviors in a work context—one that is different than home or school. Indeed, working in a job is most often the first time that youngsters engage with adults around adult duties and responsibilities. The work context makes them accountable to other adults around basic responsibilities associated with being a productive employee—who is not a burden to their employer or co-workers and where there are a variety of not-so-pleasant consequences when the teen does act in a way to become a burden—like not showing up for work or doing a lousy job that a co-worker has to fix.

Early work experience also helps develop labor market savvy, it creates a record of accomplishment - the work history - and it helps make connections with employers and networks with other professionals at work that could help in future job search efforts. Early work experience can help young workers to go beyond entry-level jobs and gain experience in different workplace settings and gain knowledge of specific occupational skills. With this more specific work experience, which comes quicker among those with early work experience, young workers can gain exposure to different occupations which can be helpful in making career choices.

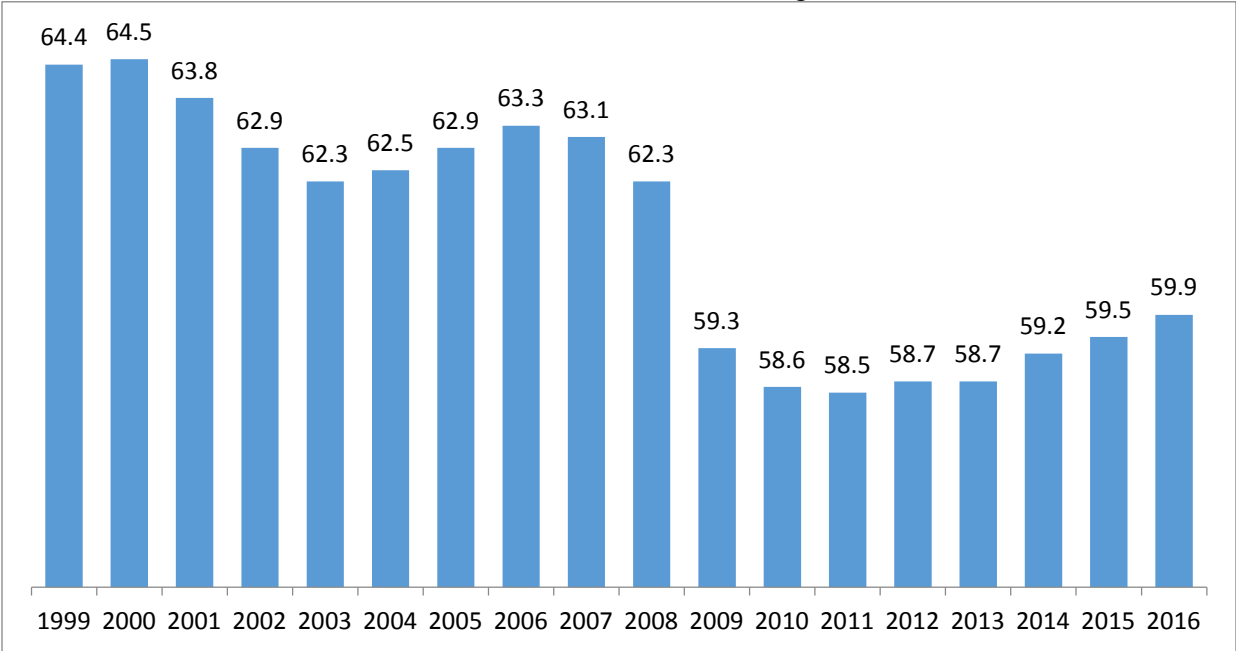
In addition to the beneficial work experience acquired from employment, employment during summer when most teens are not in school keeps them from engaging in risky behaviors, particularly teens from low-income families from inner cities.

This paper provides projections of the teen employment rate this summer. It begins with an examination of longer-term trends in the overall employment rate of teens and adults. We then shift our focus to summer employment trends and assess the experiences of different subgroups of teens (gender, race-ethnicity, and family income) in finding summer work. We have also examined the varying likelihood of teens working during the summer months across states.

**Trends in Employment-Population Ratios of Working-Age Adults (16+) and Teens (16-19), 1999-2016**

Since the labor market recovery from the Great Recession of 2007-08 began towards later quarters of 2010, the nation has added more than 16 million non-farm payroll jobs and \$2.46 trillion real GDP. As a result, the employment-population ratio of working age adults (16+) has improved after bottoming out in 2011-2012 (Chart 1). Even though the employment-population ratio of working-age adults (16+) is nearly 5-percentage points below the level in 1999-2000, the ratio has been improving since 2014. Part of this slow improvement is associated with an aging of the baby-boom generation that results in a higher share of the working-age persons in their retirement years—putting downward pressure on the overall employment-population ratio.

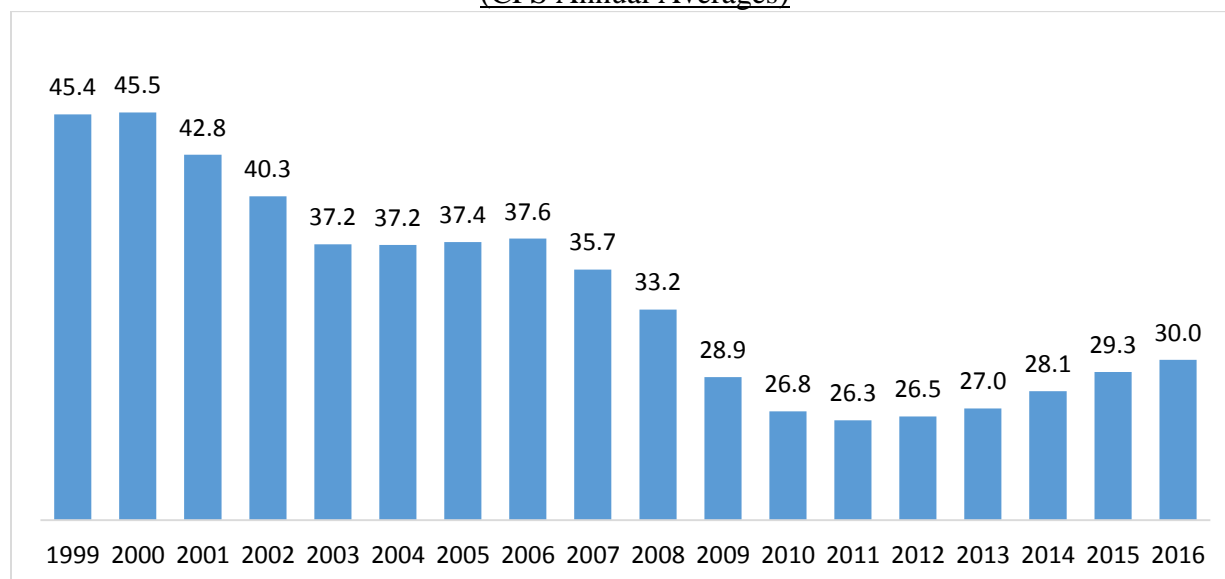
**Chart 1:**  
Trends in Civilian Employment-Population Ratio of Working-Age Adults (16+) in the U.S., 1999-2016 (CPS Annual Averages)



Source: Current Population Surveys (CPS) public use data files, 1999 to 2016, U.S. Census Bureau; tabulations by Center for Labor Markets and Policy, Drexel University.

However, another reason that the nation’s employment rate is well below its pre-recession level, is the low overall employment rate of teens. The employment rate of teens has improved since 2010-2011 when only 26 percent of teens worked in any given month. By 2015-2016, about 30 percent of teens worked on any given month of the year (Chart 2). The current employment rate of teens is 5 to 7 percentage points below their pre-recession levels of 35 to 37 percent. Even with improving labor markets, teens have made only modest gains in obtaining some type of employment compared to the bottom of the recession when jobs were very scarce.<sup>1</sup> But given the very low unemployment to vacancy ratios that prevailed last year, the 30 percent teen employment rate is very disappointing.

**Chart 2:**  
**Trends in Civilian Employment-Population Ratio of Teens (16-to-19) in the U.S., 1999-2016**  
**(CPS Annual Averages)**



Source: Current Population Surveys (CPS) public use data files, 1999 to 2016, U.S. Census Bureau; tabulations by Center for Labor Markets and Policy, Drexel University.

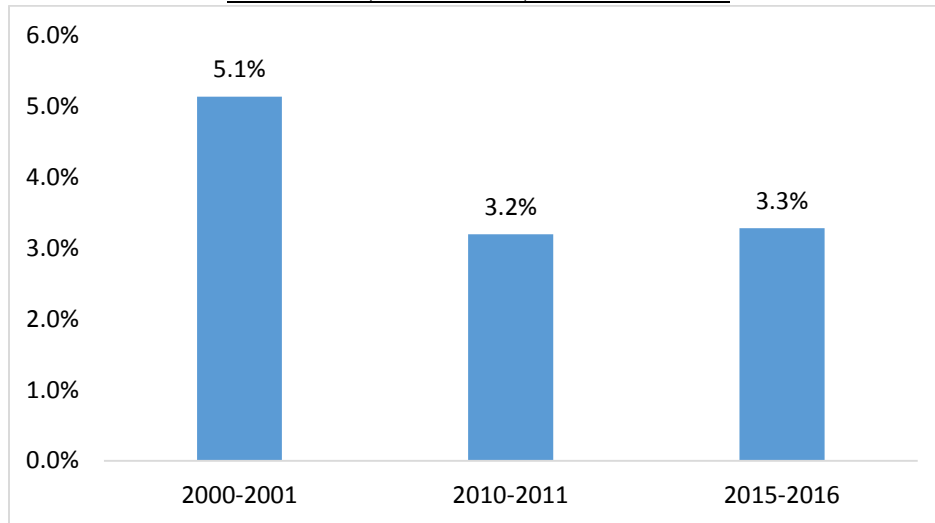
## Changing Patterns of Teen Employment

Teens accounted for about 5 percent of the American workforce at the end of the 1990s; that is, about 5 percent of all employed persons in the nation were aged 16 to 19. However, the job losses associated with both the dot.com recession and the Great Recession and the weak labor market conditions that followed those downturns resulted in teens accounting for just 3 percent of the nation’s workforce by 2010-2011. By 2015-2016, even after a half decade of job

<sup>1</sup> The unemployment to vacancy ratio reached its historical peak in mid-2009 when there were 6.6 unemployed job seekers for every available job.

market recovery, the teen share of total employment in the nation remained at just 3 percent—despite the size of the 16- to 19-year-old population remaining unchanged in size (Chart 3).

Chart 3:  
Teen (16- to 19-Years-Old) Share of Total Employment in the U.S.,  
2000-2001, 2010-2011, and 2015-2016



Source: Current Population Surveys (CPS) public use data files, 2000/ 2001, 2010/ 2011, and 2015/2016, U.S. Census Bureau; tabulations by Center for Labor Markets and Policy, Drexel University.

By 2015, virtually every major industry sector in the nation had substantially reduced the teen share of the industry’s workforce. Goods-producing industries (agriculture, forestry, and fishing, construction, and manufacturing) reduced their teen employment shares at a very rapid pace. In 2000-2001, teens accounted for about 3 percent of employment in the two goods-producing industry sectors, but mass lay-offs and plant closings disproportionately impacted teens—with the share of employment among goods producers. By 2010-11 the teen share of employment in the goods-producing sector nearly halved to just 1.6 percent and remained at this level during the current economic recovery (Table 1). Retail trade firms including grocery stores and department stores, traditional sources of entry-level jobs for young people, sharply reduced their reliance on teens to meet their staffing needs. Back in 2000-2001, 1 in 8 workers employed by retail trade firms were aged 16 to 19, but by 2010-2011 this proportion fell to just 1 in 14 and has remained at this level to the present time.

Accommodation and food service firms sharply reduced their reliance on teens to meet their staffing needs, even as firms in this industry have been among the leading sources of new job creation in the nation. Teenagers accounted for 1 in 5 workers in this industry during 2000-2001, with especially heavy concentrations in elements of the food service industry where teens

played a central role as food servers and in food preparation jobs. But the teen share of employment among these firms fell to just 1 in 7 by 2010-11 (down from 1 in 5 in 2000-2001) and remained at that level since then. Similarly, the expanding arts, entertainment and recreation employers in the nation have also reduced their utilization of teens.

Table 1:  
Teen Shares of Total Employment by Major Industry Sector in the U.S.,  
 2000-2001, 2010-11, and 2015-2016

Major Industry Sector	2000-2001	2010-2011	2015-2016	Absolute Change	Percent Change
All Industries	5.1	3.2	3.3	-1.9	-36
<b>Goods-producing industries</b>	<b>2.7</b>	<b>1.6</b>	<b>1.6</b>	<b>-1.0</b>	<b>-39</b>
Agriculture, Forestry, Fishing, & Hunting	5.7	4.7	4.1	-1.6	-29
Mining	1.6	1.1	0.7	-1.0	-59
Construction	3.3	1.4	1.6	-1.7	-52
Non-Durable Manufacturing	2.2	1.5	1.6	-0.6	-27
Durable Manufacturing	1.8	1.0	1.1	-0.7	-38
<b>Services-producing industries</b>	<b>5.9</b>	<b>3.6</b>	<b>3.7</b>	<b>-2.2</b>	<b>-38</b>
Utilities	0.9	0.4	0.5	-0.4	-48
Wholesale Trade	2.5	1.3	1.3	-1.2	-46
Retail Trade	12.1	7.0	6.9	-5.2	-43
Transportation and Warehousing	1.7	0.9	1.2	-0.4	-26
Information	3.6	2.5	2.4	-1.2	-33
Finance and Insurance	2.0	0.7	0.6	-1.4	-69
Real Estate, Rental and Leasing	3.4	1.1	1.1	-2.3	-67
Professional, Scientific and Technical	1.8	0.8	0.7	-1.1	-60
Management of Companies & Enterprises	1.2	1.2	0.6	-0.6	-51
Administrative Support & Waste Mgmt.	5.0	2.3	2.2	-2.8	-57
Educational	2.5	1.6	1.8	-0.7	-27
Healthcare and Social	3.0	1.6	1.6	-1.4	-47
Arts, Entertainment and Recreation	12.7	9.5	9.4	-3.3	-26
Accommodation and Food Services	20.8	14.8	15.5	-5.3	-25
Other Services	5.0	2.9	2.8	-2.2	-44
Public Services	0.9	0.5	0.5	-0.4	-46

Source: Current Population Surveys (CPS) public use data files, 2000/ 2001, 2010/ 2011, and 2015/2016, U.S. Census Bureau; tabulations by Center for Labor Markets and Policy, Drexel University.

As the share of teens who work has declined, the concentration of teens in few industries has become more intense. The data in Table 2 examines the change in the distribution of teen employment across major industry sectors in the nation relative to the distribution of all employment across industries in the last 15 years. These data reveal that teens' employment is



distributed much differently across industries than total employment, with retail trade, arts, recreation and accommodation and food services firms employing 63 percent of all teens, but just 20 percent of the nation’s workforce; thus teens are 3 times more likely to work in these industry sectors than the average worker in the nation. However, over the last fifteen years, teen employment has become increasingly concentrated in accommodation and food services. During 2000-2001 about one-quarter of teens worked in restaurants, fast food firms and hotels/motels,

Table 2:  
The Distribution of Teen and Total Employment, by Major Industry Sector in the U.S. 2000-2001 to 2015-2016 (In Percent)

Major Industry Sector	2000-2001		2015-2016	
	Teens (16-19)	Total (16+)	Teens (16-19)	Total (16+)
All industries	100	100	100	100
<b>Goods-producing industries</b>	<b>12</b>	<b>23</b>	<b>9</b>	<b>19</b>
Agriculture, Forestry, Fishing, & Hunting	2	2	2	2
Mining	0	0	0	1
Construction	5	7	3	7
Non-Durable Manufacturing	2	5	2	4
Durable Manufacturing	3	9	2	6
<b>Services-producing industries</b>	<b>88</b>	<b>77</b>	<b>91</b>	<b>81</b>
Utilities	0	1	0	1
Wholesale Trade	1	3	1	2
Retail Trade	27	12	23	11
Transportation and Warehousing	1	4	2	4
Information	2	3	1	2
Finance and Insurance	2	5	1	5
Real Estate, Rental and Leasing	1	2	1	2
Professional, Scientific and Technical	2	6	2	7
Management of Companies & Enterprises	0	0	0	0
Administrative Support & Waste Mgmt.	4	4	3	4
Educational	4	8	5	9
Healthcare and Social	6	11	6	14
Arts, Entertainment and Recreation	5	2	6	2
Accommodation and Food Services	26	6	34	7
Other Services	5	5	4	5
Public Services	1	5	1	5

Source: Current Population Surveys (CPS) public use data files, 2000/ 2001, 2010/ 2011, and 2015/2016, U.S. Census Bureau; tabulations by Center for Labor Markets and Policy, Drexel University.

but by 2015-2016, over one in three teens work in these industries. Indeed, the data suggest that teens—when they work—are now 4.8 times more likely to be employed in food services and lodging than their adult counterparts.

## **Modest Improvement in Teen Employment Opportunities in Summer Months of Recent Years**

The summer employment prospects of U.S. teens have improved modestly over the past few years.<sup>2</sup> But are not nearly as strong as in earlier years; more than half of teens worked during summer months of 1999-2000 near the end of the twenty year jobs boom in the United States. The employment-population ratios of teens during summer months, as well as the year-round employment-population ratio, started to decline from the beginning of the dot.com recession in 2001 and thereafter and reached its nadir in 2010-2011.

Teens aspire to work more during the summer months to gain both earnings and work experience as they have many more potential weeks and hours to work compared to other months when they are enrolled in high school and college; so teen employment rates are much higher during the summer than other times of the year. Summer jobs provide teens with exposure to the world of work and help them develop occupational and soft skills needed at work. Evidence shows that urban youth who did not work during summer were more likely than their employed peers to commit violent crimes, to be at risk of social isolation, and to get involved in risky, deviant, delinquent, and violent behaviors.<sup>3</sup> Evidence also reveals that summer job programs reduce violent crimes committed by African-American teens.<sup>4</sup> In addition, summer employment is also found to contribute to better academic outcomes.<sup>5</sup>

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<sup>2</sup> For review of 2016 summer employment reports, see: Neeta Fogg, Paul Harrington and Ishwar Khatiwada, "The 2016 Summer Jobs Outlook for Teens in the US," Working paper, Center for Labor Markets and Policy, Drexel University, May 2016; (ii). Megan Woolhouse, "Affluent Teens Twice as Likely to Find Seasonal Work: Teens Facing a Jobs Gap As Well", The Boston Globe, May 28, 2015, pp. C1-C7; (iii). Kaomi Goetz, "Teens Hoping For More Jobs, Higher Wages This Summer", *All Things Considered*, NPR, New York, June 2015.

<sup>3</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.

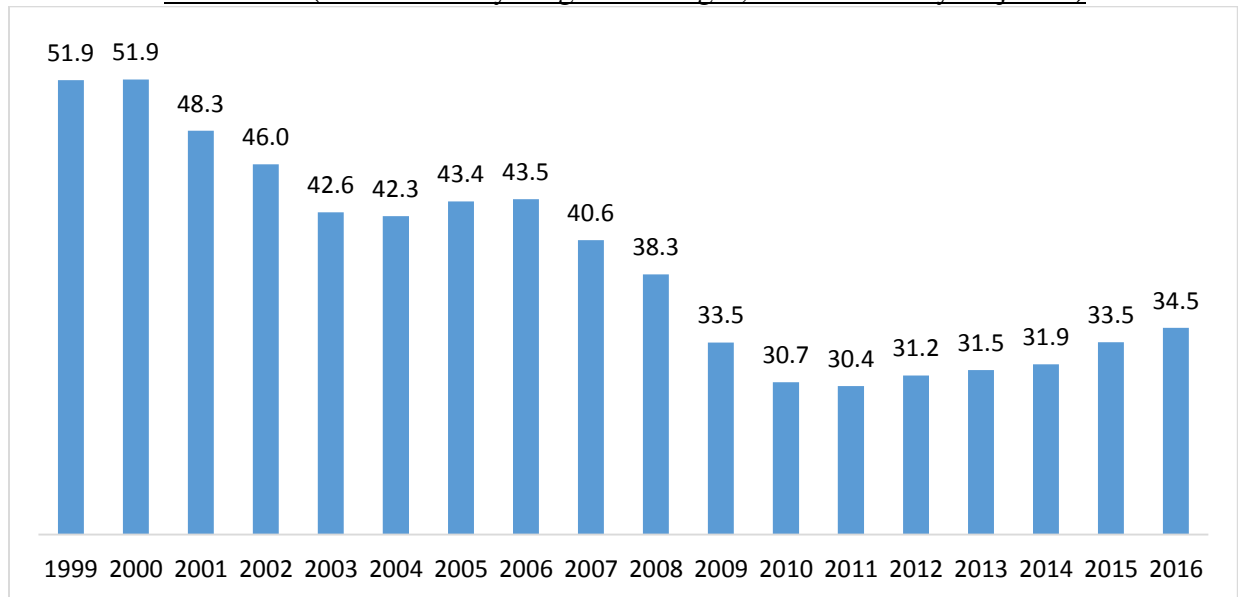
<sup>4</sup> See: Sara B. Heller, "Summer jobs reduce violence among disadvantaged youth", *Science*, Vol 346, 5 December 2014; Gelber Alexander, Adam Isen, Judd B. Kessler, *The Effects of Youth Employment: Evidence From New York City Summer Youth Employment Program Lotteries*, NBER Working Paper 20810, December 2014.

<sup>5</sup> Jacob Leos-Urbel, "What is a Summer Job Worth? The Causal Impact of Summer Youth Employment on Academic Outcomes: Evidence from a Large-Scale Lottery," *Journal of Policy Analysis and Management*, Volume 33, Issue 4, pages 891-991, Fall 2014.

Given such positive impacts of summer employment among teens, it is sad to see the steady deterioration of the summer job prospects of Americans aged 16 to 19 since the summer of 1999-2000. At that time the nation’s labor market was operating at a near full employment level and nearly 52 percent of teens were employed (Chart 4). By the summer of 2006-2007, the employment to population ratio of teens had plummeted to 41-43 percent even as the national economy recovered from the dot.com recession during the 2003 to 2007 period. Indeed, it seems that teens absorbed a disproportionate share of summer jobs losses during the dot.com recession, but got none of these jobs back during the recovery.

The impact of the Great Recession was that the summer employment rate of teens reached its historical low. In the summer months of 2010-2011, only 30 percent of teens were employed; the lowest teen summer employment rate ever recorded. Since then teen summer employment has risen, but the gains have been very modest. In the summer months of 2016, 34.5 percent of U.S. teens were able to find some type of paid employment. The employment to population ratio of U.S. teens in 2016 was only 4-percentage points above the historically lowest level in 2011.

**Chart 4:**  
Trends in Civilian Employment-Population Ratio of Teens (16-to-19) in Summer Months, U.S., 1999-2016 (CPS June-July-August Averages, Not Seasonally Adjusted)



**Source:** Current Population Surveys (CPS) public use data files, 1999 to 2016, U.S. Census Bureau; tabulations by Center for Labor Markets and Policy, Drexel University.

## Which Group of Teens Improved Their Employment-Population Ratio Over the 2010-2011 and 2015-2016 Period?

The following section of the report is devoted in assessing improvements in employment-population ratio of subgroups of teens in gender, race-ethnicity, and by single-year age groups during the summer months of 2010-11 and 2015-2016. In the most recent years (2015-16) the summer employment-population ratios of teens across gender, race-ethnicity, and age groups were still far below their peak levels in 1999-2000, but those proportions have improved somewhat since the summer months of 2010-2011. These improvements are the first we have seen in the past decade—reversing the trend of ever diminishing chances for teen summer employment. For all teens (16-19) the summer employment-population ratio increased from 30.6 percent in 2010-2011 to 34 percent in summer months of 2015-2016, an increase of 3.5 percentage points over the period (Table 3).

For many years now employment-population ratios of female teens, both in summer months and year-round, have been higher than their male counterparts. In the summer months of 2010-2011, the employment-population ratio of female teens was 1.3 percentage points higher than male teens while in the summer months of 2015-2016, the gap between the employment-population ratios of male and female teens did narrow. Male teen summer employment-population ratio increased from 30 percent in 2010-2011 to 33.8 percent in summer months of 2015-2016, an increase of nearly 4-percentage points while among female teens, the summer employment-population ratio increased by 3-percentage points over the same time period from 31.2 percent to 34.2 percent (Table 3).

Among race-ethnicity groups, summer teen employment-population ratios tend to vary markedly. In the summer months of 2015-2016, four in ten White, non-Hispanic teens worked while only one in five Asian teens and one in four Black teens worked. The gains in summer employment were greatest among Black teens who saw their summer E/P ratio rise by 6.5 percentage points between 2010-2011 and 2015-2016, followed by an increase of 5 percentage points among Hispanic teens, 2.7 percentage points among White, non-Hispanic teens, and 1.7 percentage points among Asian teens (Table 3).

The summer employment-population ratio of teens also varied widely by their age. During the summer months of 2015-2016, the employment-population ratio of 16-year-olds was

only 17 percent, while the ratio rose to 29.5 percent for 17-year-olds, 41 percent for 18-year-olds, and 51.7 percent for 19-year-olds. Clearly, older teens were employed at much higher rates than their younger counterparts. Over the summer months of 2010-2011 and 2015-2016, the employment-population ratio increase was 3.4 percentage points among 16-year-olds, 4-5 percentage points among 17- to 18-year-olds and 3.4 percentage points among 19-year-olds (Table 3).

**Table 3:**  
**Trends in Summer Months Employment to Population Ratios of 16- to 19-Year-Olds by Gender, Race-Ethnic Group, and Age, U.S., Selected Years, 2010-2011, and 2015-2016**  
**(CPS 2-Year Averages, Not Seasonally Adjusted)**

Group	2010- 2011	2015- 2016	Absolute Change
All (16-19)	30.6	34.0	+3.5
<b><u>Gender</u></b>			
Male	29.9	33.8	+3.9
Female	31.2	34.2	+3.0
<b><u>Race-Ethnicity</u></b>			
White	37.7	40.4	+2.7
Black	17.7	24.2	+6.5
Asian	19.2	20.9	+1.7
Hispanic	22.1	27.2	+5.0
<b><u>Age</u></b>			
16	13.7	17.1	+3.4
17	25.2	29.5	+4.4
18	36.1	41.1	+5.1
19	48.3	51.7	+3.4

Source: Current Population Surveys (CPS) public use data files, 2010/2011 and 2015/2016, U.S. Census Bureau; tabulations by Center for Labor Markets and Policy, Drexel University.

The summer employment rates of teens also varied widely by their family income levels. Teens from affluent families were more likely to be employed than teens from low-income families. In the summer months of 2015-2016, less than one-quarter of teens from low-income families (<\$20,000) were employed. Teen employment rates rose fairly steadily with levels of family income, rising from 30 percent among teens in families with annual income \$20,000-\$39,000, to 32 percent among teens in families with an annual income \$40,000-\$59,000, and 41 percent among teens with an annual family income \$100,000-\$149,000. Among low-income teens, the employment-population ratio over the summer months of 2010-2011 and 2015-2016 increased by only 1.7 percentage points while for teens from families with income \$20,000-

\$39,000, the summer employment-population ratio increased by 5.3 percentage points over the same time period. For all other groups of teens with family income over \$60,000, the employment-population ratio increased in the range of 2-3 percentage points over the 2010-2011 and 2015-2016 time period (Table 4).

Table 4:  
Trends in Summer Months Employment to Population Ratios of 16-to 19-Year-Olds by Family Income Levels, U.S., Selected Years, 2010-2011 and 2015-2016  
(CPS 2-Year Averages, Not Seasonally Adjusted)

Family Income Group	2010-11	2015-16	Absolute Change
Under \$20,000	21.3	23.0	+1.7
\$20,000-39,999	25.2	30.5	+5.3
\$40,000-\$59,999	31.9	31.7	-0.2
\$60,000-\$74,999	33.4	36.3	+2.8
\$75,000-\$99,999	36.8	39.4	+2.6
\$100,000-\$149,999	38.7	40.6	+1.9
\$150,000+	36.1	38.5	+2.3

Source: Current Population Surveys (CPS) public use data files, 2010/2011 and 2015/2016, U.S. Census Bureau; tabulations by Center for Labor Markets and Policy, Drexel University.

## **Geographic Variations in the Employment-Population Ratios of Teens during the Summer Months of 2010-2011 and 2015-2016**

The employment rates of teens in the summer also varied widely by their state of residence. Table 5 displays employment-population ratios of teens in summer months of 2015-2016 by state. In the top 10 states, summer employment rates for teens ranged from lows of 52 percent to 53 percent in North Dakota, Montana, and Nebraska to highs of 56 percent to 57 percent in Maine, New Hampshire, and Wisconsin. The unweighted average summer employment rate of teens in these top ten states was 54.7 percent. In the bottom 10 states, summer teen employment rates ranged from lows of 20 percent to 24 percent in the District of Columbia, Mississippi, and California to highs of 26 percent to 27 percent in New Mexico, Alabama, Hawaii, and New Jersey. The unweighted average summer employment rate of teens in these bottom ten states was just 25 percent. The average summer employment rate of teens in the top 10 states was 2.2 times higher than in the bottom 10 states.

Table 5:  
Summer Months Employment to Population Ratios of 16-to 19-Year-Olds by State, 2015-2016,  
(CPS 2-Year Averages, Not Seasonally Adjusted)

Rank	State	E/P Ratio 2015-16	Rank	State	E/P Ratio 2015-16
<b>1</b>	<b>Wisconsin</b>	<b>57.2</b>	27	Delaware	35.9
<b>2</b>	<b>New Hampshire</b>	<b>56.9</b>	28	Maryland	35.0
<b>3</b>	<b>Maine</b>	<b>56.3</b>	29	Virginia	34.7
<b>4</b>	<b>South Dakota</b>	<b>55.2</b>	30	North Carolina	33.3
<b>5</b>	<b>Minnesota</b>	<b>54.7</b>	31	Kentucky	32.2
<b>6</b>	<b>Iowa</b>	<b>54.6</b>	32	Nevada	31.6
<b>7</b>	<b>Vermont</b>	<b>54.0</b>	33	Washington	31.3
<b>8</b>	<b>Nebraska</b>	<b>53.4</b>	34	Louisiana	31.2
<b>9</b>	<b>Montana</b>	<b>52.4</b>	35	South Carolina	31.1
<b>10</b>	<b>North Dakota</b>	<b>52.1</b>	36	Connecticut	31.0
11	Wyoming	50.5	37	Arizona	30.7
12	Utah	49.8	38	Arkansas	30.6
13	Kansas	48.4	39	Texas	29.0
14	Ohio	45.9	40	Oklahoma	28.0
15	Missouri	44.4	41	New York	27.3
16	Idaho	43.6	<b>42</b>	<b>New Jersey</b>	<b>27.0</b>
17	Alaska	43.5	<b>43</b>	<b>Hawaii</b>	<b>26.8</b>
18	Massachusetts	43.5	<b>44</b>	<b>Alabama</b>	<b>26.6</b>
19	Michigan	43.0	<b>45</b>	<b>New Mexico</b>	<b>26.4</b>
20	Pennsylvania	42.8	<b>46</b>	<b>Georgia</b>	<b>25.9</b>
21	Indiana	42.7	<b>47</b>	<b>Florida</b>	<b>25.8</b>
22	Rhode Island	39.8	<b>48</b>	<b>West Virginia</b>	<b>24.7</b>
23	Colorado	38.2	<b>49</b>	<b>California</b>	<b>24.3</b>
24	Oregon	37.1	<b>50</b>	<b>Mississippi</b>	<b>22.1</b>
25	Illinois	37.1	<b>51</b>	<b>Dis. of Columbia</b>	<b>20.4</b>
26	Tennessee	36.3			

Source: Current Population Surveys (CPS) public use data files, 2015-2016, U.S. Census Bureau; tabulations by Center for Labor Markets and Policy, Drexel University.

With the improvement in state labor market conditions after the Great Recession of 2007-09, summer teen employment-population ratios have also improved in the majority of states over the 2010-2011 and 2015-2016 period.<sup>6</sup> In seven states (New Hampshire, Wisconsin, Michigan, Idaho, Indiana, Minnesota, and Utah), teen employment in summer months over the 2010-2011 and 2015-2016 period increased in the range of 10-15 percentage points (Table 6). In contrast, in nine states (New Jersey, South Dakota, Virginia, Oregon, Oklahoma, Arkansas, Mississippi, North Dakota, and Connecticut), employment-population ratios of teens between summer

<sup>6</sup> As of this writing all but five states had recovered all the jobs lost since the Great Recession.

months of 2010-2011 and 2015-2016 did not improve. The employment-population ratios of teens in North Dakota and South Dakota did not improve over the 2010-2011 and 2015-2016 period; however, in both time periods, these two states had one of the highest teen summer and year-round employment-population ratios among 50 states and the District of Columbia.

Table 6:  
Ranking of States by Absolute Change in Teen Summer Employment to Population Ratios Over the 2010-2011 to 2015-2016 Period, (CPS 2-Year Averages, Not Seasonally Adjusted)

State	E/P Ratio 2010-11	E/P Ratio, 2015-16	Absolute Change	State	E/P Ratio 2010-11	E/P Ratio, 2015-16	Absolute Change
New Hampshire	41.8	56.9	+15.1	Nebraska	50.7	53.4	+2.6
Wisconsin	43.8	57.2	+13.4	Nevada	29.2	31.6	+2.4
Michigan	31.0	43.0	+11.9	Florida	23.6	25.8	+2.2
Idaho	32.4	43.6	+11.1	Delaware	33.7	35.9	+2.2
Indiana	31.9	42.7	+10.9	New York	25.4	27.3	+2.0
Minnesota	44.3	54.7	+10.4	Texas	27.2	29.0	+1.9
Utah	39.6	49.8	+10.2	Dis. of Col.	19.0	20.4	+1.4
North Carolina	24.8	33.3	+8.5	Pennsylvania	41.4	42.8	+1.3
Tennessee	28.3	36.3	+7.9	Missouri	43.1	44.4	+1.2
Louisiana	24.0	31.2	+7.2	Wyoming	49.4	50.5	+1.0
Arizona	24.0	30.7	+6.8	Hawaii	26.0	26.8	+0.8
Montana	45.6	52.4	+6.7	Maryland	34.2	35.0	+0.7
Vermont	47.3	54.0	+6.7	Kansas	47.7	48.4	+0.6
Ohio	39.3	45.9	+6.5	Alabama	26.2	26.6	+0.5
Georgia	20.2	25.9	+5.7	Rhode Island	39.4	39.8	+0.4
South Carolina	25.9	31.1	+5.2	West Virginia	24.5	24.7	+0.1
Main	51.3	56.3	+5.0	New Jersey	28.1	27.0	-1.1
Kentucky	27.5	32.2	+4.6	South Dakota	57.2	55.2	-2.0
Alaska	38.9	43.5	+4.6	Virginia	36.9	34.7	-2.2
Massachusetts	39.2	43.5	+4.3	Oregon	40.3	37.1	-3.1
Colorado	34.0	38.2	+4.2	Oklahoma	32.0	28.0	-4.0
California	20.3	24.3	+4.0	Arkansas	34.7	30.6	-4.1
New Mexico	22.5	26.4	+3.9	Mississippi	27.2	22.1	-5.1
Washington	28.3	31.3	+3.0	North Dakota	58.8	52.1	-6.7
Iowa	51.7	54.6	+2.9	Connecticut	39.4	31.0	-8.4
Illinois	34.3	37.1	+2.8				

Source: Current Population Surveys (CPS) public use data files, 2015-2016, U.S. Census Bureau; tabulations by Center for Labor Markets and Policy, Drexel University.



## The Projected Summer 2017 Job Outlook for U.S. Teens

Given the improved labor market conditions in most states in the past few years, how well are the nation’s teens likely to fare in the job market this summer? To answer this question, we have relied upon a regression model of teen employment rates that was developed in 2006.<sup>7</sup> The model is designed to predict the average summer employment rate of teens based on their employment in January through April of each year. The regression model used seasonally adjusted monthly teen employment data from 1980 through 2002. The teen labor force increases sharply in the summer months as students have summer vacation or exit school permanently. The teen employment rate is highly path dependent. That is, the chances of working in the future are dependent on the amount of past work experience. Teens who worked in the previous year or during the winter/spring before the summer are much more likely to work in the summer months than those who did not work.

We have revised our previous regression model to predict summer employment rate with 1980 through 2005 data. We included seasonally-adjusted average employment to population ratios of three months (January, February, and March) for teens to predict the (seasonally adjusted) summer employment rate, based on the hypothesis that a higher employment rate over the January to March period is expected to yield a higher summer employment rate for teens. Our revised model also achieved a good fit. The R-squared for the model was .87, which was highly significant at .001 level (Table 7).

Table 7:  
Findings of the Regression Model Estimates of the Summer Teen Employment Rate in the U.S.  
Based on Observations from 1980 to 2005  
(Seasonally Adjusted Average E/P Rates, January through March)

Regression Variable	Coefficient	Standard Error	t-Statistics	Sig. of t
Constant	43.0	0.231	186.0	0.001
Jan-March E-P	.97	0.077	12.7	0.001
<b><u>Model Summary</u></b>				
R-Squared	0.87			
DF;N	1;24			
F-Stat	160.8			0.001

<sup>7</sup> The projection is based on a method developed by Andrew Sum and Ishwar Khatiwada et al. at the Northeastern University’s Center for Labor Market Studies.

The predicted summer employment rate (seasonally adjusted) for a given year will be<sup>8</sup>:

$$\text{Predicted Summer E-P Ratio, EMP } i, t = 43.0 + .97 * (\text{EMP } j, t - 43.2)$$

Where EMP  $i, t$  = Predicted seasonally adjusted summer teen employment rate in year  $t$ .

EMP  $j, t$  = Estimated teen employment rate in the first four months of year  $t$ .

Table 8 displays actual and predicted summer teen employment rates based on the above model. The model very slightly under-predicted summer teen employment rates in 2012 through 2014 from 0.3 to 0.6 percentage points. In 2015 and 2016, the model predicted an employment rate that was nearly 0.2 to 0.6 percentage points higher than the actual summer teen employment rate. In the first three months of 2017 (January to March), the seasonally adjusted employment to population ratio of teens in the U.S. was 30.3 percent. Plugging this employment rate in the regression equation above, **we predict that the teen employment rate in the summer months of 2017 will be 30.5 percent.**

Table 8:  
Comparisons of the Predicted and Actual Teen Summer Employment Rates from  
2005 to 2016 and the Predicted Teen Summer Employment Rate for 2017  
(June-August Averages, in Percent, Seasonally Adjusted)

Summer of Year	Actual Rate	Predicted Rate	Gap (Actual – Predicted)
2005	36.7	36.2	+0.5
2006	36.9	37.2	-0.2
2007	34.3	36.0	-1.7
2008	32.4	33.7	-1.3
2009	28.5	30.3	-1.9
2010	25.6	26.6	-1.0
2011	25.6	26.1	-0.5
2012	26.4	26.0	+0.4
2013	26.7	26.4	+0.3
2014	27.2	26.6	+0.6
2015	28.1	28.8	-0.6
2016	29.7	29.9	-0.2
<b>2017</b>	<b>?</b>	<b>30.5</b>	<b>--</b>

<sup>8</sup> The predictor variable referred to as “employment to population” ratio is the value of average employment to population ratio of January to March, seasonally adjusted, less 43.2 (average January-March employment to population ratio from 1980 to 2005).

## Data Sources and Methodology

Estimates of labor force statistics appearing in this report are based on the monthly Current Population Survey, 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 19<sup>th</sup> to 25<sup>th</sup> of the month with a nationally representative sample of approximately 60,000 households.<sup>9</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 adds supplemental questions to household members in particular months 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 teen aged (16-19) population in 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 labor market success of teens.

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<sup>9</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)