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## The summer teen job market in 2005 and the predicted outlook for 2006: implications of summer employment for jobs for America's graduate's programs

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## Introduction

During the past few years, the Center for Labor Market Studies of Northeastern University has been engaged in a diverse array of research activities focused on changing labor market conditions for the nation's teens and young adults (those 16-24 years old) from the late 1980s to the present.<sup>1</sup> Employment rates for the nation's teens fell considerably from 2000 through 2004 and remained at low levels for most of 2005. The annual average employment rates for the nation's teens in 2004 and 2005 were the lowest in the last 57 years. Among the objectives of this research project is that of providing updates on changing youth labor market conditions to guide the formulation of future workforce development policies for teens, recent high school graduates, and other out-of-school young adults under the age of 25. Last year, we prepared two research papers on the projected summer 2005 job outlook for the nation's teenagers and their actual summer employment experiences during that year.<sup>2</sup> This research paper is designed to describe and assess changes in summer employment outcomes for teens (16-19) in the U.S. during the decade of the 1990s and from the summer of 2000 through 2005. It also will provide a projected job outlook for the nation's teens during the forthcoming summer of 2006 and review research findings on the impact of early post high school summer work experience on the employment rates of JAG graduates from the Class of 2003 on their fall 2003 and spring 2004 employment status.

The paper will begin with a brief review of the employment concepts and measures underlying all of the employment estimates appearing in this paper and the data sources used to

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<sup>1</sup> For a review of changing labor market conditions for teens and young adults in the U.S. from the end of the labor market boom in 2000 through early 2004, See:

(i) Andrew Sum, Ishwar Khatiwada with Sheila Palma, Still Young, Restless, and Jobless: The Growing Employment Malaise Among U.S. Teens and Young Adults, Center for Labor Market Studies, Northeastern University, Report Prepared for the Jobs for America's Graduates Network, Alexandria, Virginia, 2004; (ii) Andrew Sum, Tim Barnicle, Ishwar Khatiwada, Joseph McLaughlin with Sheila Palma, Educational and Labor Market Outcomes For the Nation's Teens and Young Adults Since the Publication of America's Choice: A Critical Assessment, Center for Labor Market Studies and National Center on Education and the Economy, January 2006; (iii) Andrew Sum, Joseph McLaughlin, Ishwar Khatiwada with Sheila Palma, Left Far Behind in the Labor Market: The Collapse of the Teen Job Market in the Industrial Midwest, Center for Labor Market Studies, Northeastern University, Report Prepared for the Alternative Schools Network, Chicago, Illinois, February 2006.

<sup>2</sup> See: (i) Andrew Sum, Ishwar Khatiwada, Joseph McLaughlin with Sheila Palma, The Summer Job Market for U.S. Teens, 2000-2004, and the Projected Job Outlook for the Summer of 2005: Implications for the JAG National Network, Center for Labor Market Studies, Northeastern University, Report Prepared for the National JAG Network, Alexandria, Virginia, May 2005; (ii) Andrew Sum, Joseph McLaughlin, Ishwar Khatiwada with Sheila Palma, The Summer 2005 Job Market for the Nation's Teens: Another Historically Low Employment Rate, Report Prepared for the Jobs for America's Graduates Network, Alexandria, Virginia, November 2005.

generate these teen employment rate estimates. Trends in the employment rates of the nation's teens from the summer of 1979 through the summer of 2005 will be presented and analyzed. We will show that the summer 2005 employment rate for teens tied the summer of 2004 as the lowest on record since 1948 when the national, CPS historical employment data series for teens begins. We will supplement findings on overall employment developments for teens in the past summer with a more detailed look at who worked in the summer of 2005. Employment rates for teens during the summer of 2005 will be presented for gender, race-ethnic, household income, and a wide array of geographic subgroups, including teens residing in individual states in the Jobs for America's Graduates (JAG) network.

The final four sections of the paper will provide a projected outlook for teen employment prospects this summer, present and explain estimates of the potential number of teens that would be employed under three different labor market scenarios, and discuss the implications of these findings for the operation and management of JAG Senior Year and Multi-Year Programs.

## **Data Sources and Key Employment Concepts and Measures**

Most of the data on teen employment rates and labor market problems appearing in this research report are based upon the findings of the Current Population Surveys (CPS), a monthly national household survey conducted by the U.S. Census Bureau for the U.S. Bureau of Labor Statistics.<sup>3</sup> The CPS survey involves interviews with a nationally representative sample of approximately 60,000 households across the nation each month. Labor force data are collected for all household members 16 and older.

To be classified as employed in the CPS household survey, an individual must meet one of the following three criteria: worked for pay or profit for 1 or more hours in the reference week (i.e., the calendar week immediately preceding the survey), was temporarily absent from a job for such reasons as illness, personal vacation or bad weather, or worked without pay for 15 or more hours in a family owned business. The employment rate for teens as defined in this paper is the ratio of the number of estimated employed teens to the number of teens in the civilian, non-

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<sup>3</sup> For a review of key design features of the CPS household survey and the underlying labor force concepts and measures, see:  
U.S. Bureau of Labor Statistics, *Employment and Earnings*, January 2005, "Appendix A," U.S. Government Printing Office, Washington, D.C., 2005.

institutional population. The CPS survey also collects data on the actual hours of work of employed teens, their reasons for working part-time, their job seeking behavior, and their desire for immediate employment. This information will be used to estimate the number of teens who were unemployed, underemployed, or members of the so-called labor force reserve. Specific definitions of each of these three labor market problem groups will be provided in a following section of this paper.

Part of the findings in this paper also are based on intake records and follow-up surveys for participants in JAG Senior Year Programs for the Class of 2003. Employment behaviors of these youth in high school and during the summer months immediately following graduation in 2003 will be used to predict their employment status in the fall of 2003 and the spring of 2004.

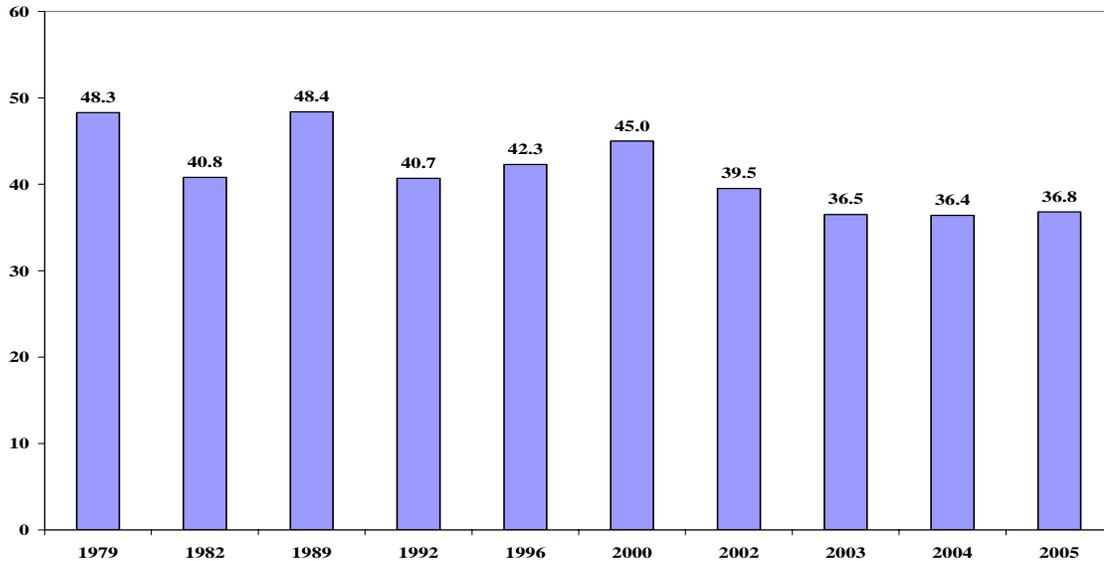
### **Trends in Teen Summer Employment Rates, 1979-2005**

The summer job market as well as the year-round job market for the nation's teens has been shown to be highly cyclically sensitive over the past three decades. Time periods characterized by strong payroll job growth in the private sector and declining aggregate unemployment rates help push up teen summer job opportunities while recessions and jobless recoveries, such as those from 1991-92 and 2002-2003, sharply reduce teen job prospects. The summer employment experiences of the nation's teens over the past two decades clearly bear this out. Between 1979, a period of strong job growth and high levels of fiscal support for the creation of teen jobs from the federal government, and 1982, a year of recession, the national teen employment rate fell considerably from 48.3% to 40.8% (Chart 1). Following the end of the severe national recession in the fall of 1982, the teen summer employment rate (seasonally adjusted) rose fairly steadily and strongly during the economic boom years of the mid to late 1980s, increasing from slightly below 41% in 1982 to a high of 48.4% in 1989 (Chart 1). The summer of 1989 would represent the highwater mark for teen summer employment for the remainder of the twentieth century. During the national recession of 1990-91 and the weak job recovery period of 1991-92, the summer teen employment rate fell again by nearly 8 percentage points, declining to just below 41% in the summer of 1992, its value during the recession of 1982. Strong and steady national job growth from 1992 to 2000 helped boost the teen employment rate back to 45% by the summer of 2000, but it did not recover its 1989 cyclical peak rate of 48%. The aggregate number of job opportunities improved fairly substantially for teens over the 1992-2000 period, but the high growth of the teen population during this time

period held down the increase in the teen E/P ratio. The nation's teen population is estimated to have grown by 2.1 million or 15% over this time period as a result of the entry of the new baby boom cohort (those born between 1976 and 1984) into their teenage years and higher levels of foreign immigration.

The summer job market for the nation's teens has deteriorated substantially since 2000. From 2000 to 2003, the teen summer employment rate fell steadily and steeply, and the teen employment rate has not improved in the past two summers despite a resurgence in overall wage and salary job growth since the early fall of 2003. The teen summer employment rate has remained in the 36.3 to 36.8 percent range over the past three summers, marking them as the lowest teen summer employment rates in post-World War II history. The summer 2005 employment rate (36.8%) for the nation's teens was slightly more than 8 percentage points below the summer 2000 employment rate and almost 12 percentage points below the summer employment rate in 1989, the peak year of the 1980s economic boom (Chart 1). Teens were more adversely affected than any other demographic group by the recession of 2001 and the largely jobless recovery of 2002-2003, and until the past few months they have been unable to benefit from the national jobs recovery that has been taking place since the early fall of 2003. A pickup in teen jobs since the fall of 2005 does promise to lift somewhat the summer job outlooks for teens in 2006.

Chart 1:  
Trends in the Summer Employment Rates of 16-19 Year Olds in the U.S., Selected Years  
1979 to 2005 (Seasonally Adjusted, in %)



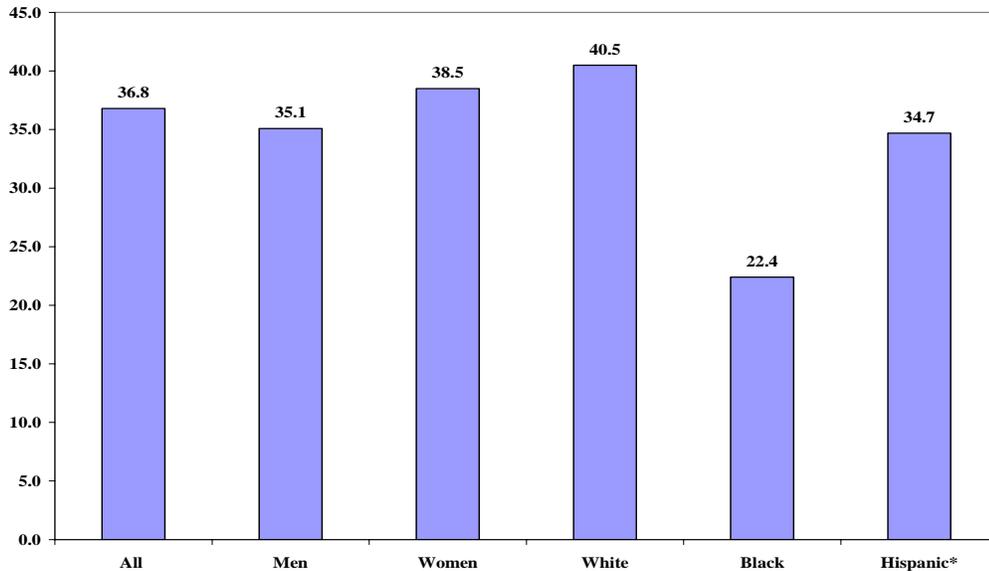
### **Who Worked During the Summer of 2005? Variations in Teen Employment Rates by Gender and Race/Ethnic Group**

Employment rates for the nation’s teens often tend to vary quite widely across an array of demographic and socioeconomic subgroups. The summer 2005 employment rates of the nation’s teens frequently differed considerably across gender and race-ethnic groups. Female teens were again more successful in finding summer employment than their male counterparts. The seasonally adjusted employment rates of male and female teens were 35.1% and 38.5%, respectively, during this past summer (Chart 2). Male teens have fared very poorly in the job market over the past five years. The summer 2005 male teen employment rate was slightly below that of the summer of 2004 and marks the lowest ever recorded in the past 57 years, falling 18 percentage points below its value in the late 1970’s when 53 out of every 100 male teens worked. Across race/ethnic groups, there was a substantial difference in the employment rates of White and Black teens.<sup>4</sup> The summer 2005 employment rate for White teens was 40.5%, which was nearly double the employment rate for the nation’s Black teens (22.4%). Only slightly more than

<sup>4</sup> The findings for White teens in Chart 2 include Hispanics who classified themselves as White in the CPS survey.

one out of every five Black teenagers worked last summer. Over the past three summers, Black teens have experienced their lowest employment rates since the severe recessionary years of the early 1980s.

Chart 2:  
Employment/Population Ratios of 16-19 Year Olds by Gender and Selected Race-Ethnic Group in the U.S., Summer 2005 (Seasonally Adjusted)



\*The data for Hispanic teens are not seasonally adjusted.

### **Variations in Teen Summer Employment Rates by Household Income**

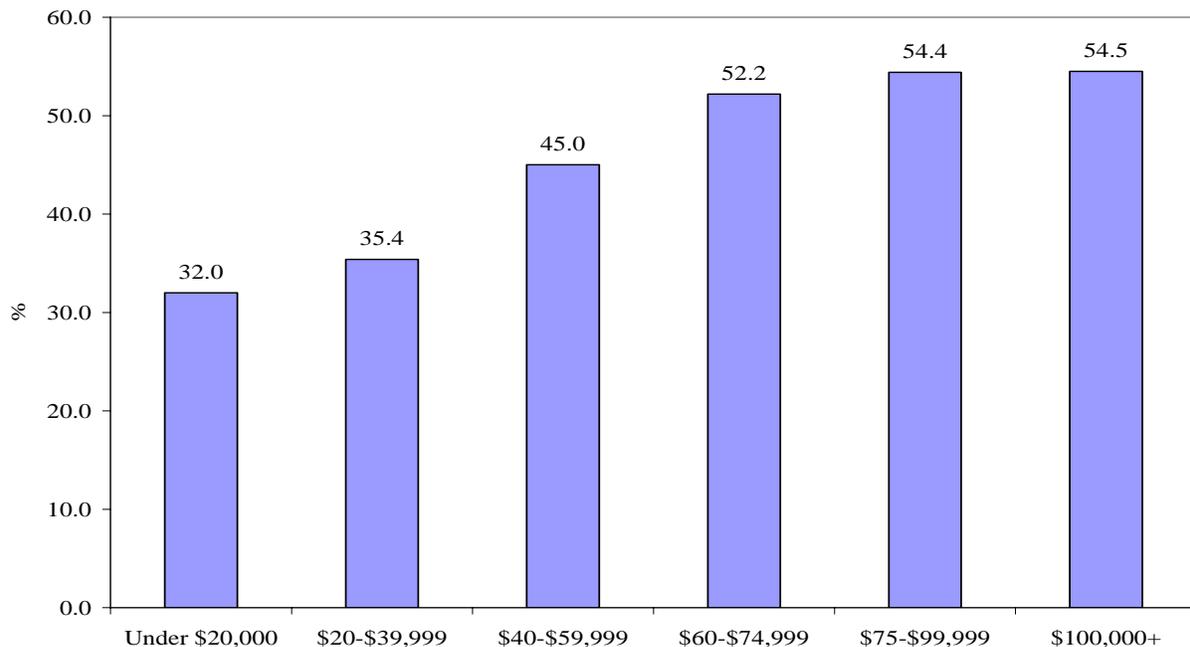
Teen employment rates also have been found to vary systematically by their household income position. Poor youth are typically characterized by the lowest employment rates while middle and upper middle income youth tend to work at the highest rates. The monthly CPS household surveys collect data on the estimated pre-tax, annual money incomes of the households in which teens resided. The CPS public use monthly survey data for June, July, and August of 2005 were used to conduct this analysis. The reported data on household incomes were used by the authors to assign each teen respondent into one of the following six household income categories:

- Under \$20,000
- \$20,000-\$39,999
- \$40,000-\$59,999

- \$60,000-\$74,999
- \$75,000-\$99,999
- \$100,000 or higher

Estimates of the summer 2005 employment rates (June-August, 3-month average) of the nation's teens in each of these six household income groups are displayed in Chart 3. The summer employment rates of teens rose steadily and often quite strongly with their household incomes, with those teens residing in households with annual incomes greater than \$75,000 employed at the highest rate (54.5%). In contrast, less than one-third of the nation's teens living in households with incomes under \$20,000 were employed in the summer of 2005 versus 35 percent of their peers living in households with incomes between \$20 and \$40 thousand, 45 percent of those residing in families with incomes between \$40 and \$60 thousand, and highs of nearly 54 to 55 percent for those living in households with incomes greater than \$75,000. The more affluent the teen's family, the greater was the likelihood of their being employed in the summer of 2005.

Chart 3:  
Summer 2005 Employment Rates of 16-19 Year Olds by Household Income  
(June-August average, in %, not seasonally adjusted)



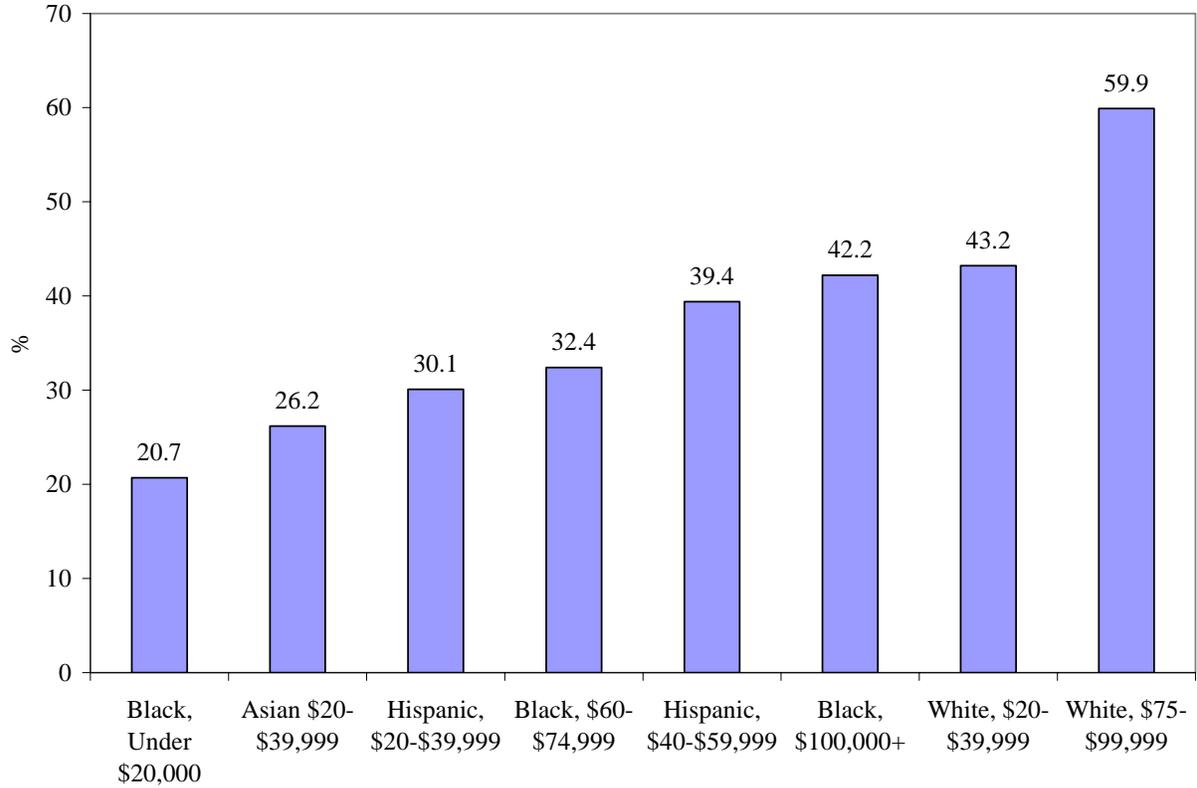
The summer employment rates of teens in three of our four race-ethnic groups typically rose with household income up to a certain point and then leveled off or declined at the very highest income levels. In each race-ethnic group, except for Asians, teens in the lowest income group (those with household incomes under \$20,000) were the least likely to be employed during the past summer. For example, among Black teens, summer 2005 employment rates rose from a low of 21 percent among those with a household income under \$20,000 to 30 percent among those with incomes between \$40 and \$60 thousand, ticked up to 32 percent among those with incomes between \$60 and \$75,000, and peaked at 42% for those with incomes above \$100,000. Among Hispanics, summer employment rates rose from a low of 28% among those living in low income households to a high of 44 percent for those in families with incomes between \$60 and \$75,000 before tapering off. In all cases, however, White teens in each income category were more likely to be working than their Asian, Black, or Hispanic teen counterparts, with frequently large race-ethnic gaps in employment rates among teens in the lower income categories. The relative size of the gap in White-Black teen employment rates between those in the lowest (low income Black) and highest income cells (Whites with incomes between \$75 and \$100,000) was nearly three to one (see Chart 4). The evidence is incontrovertible- affluent White teens are far more likely to work during the summers than low income Black teens. Substantially reducing the size of these White-Black teen employment gaps should be a major priority for the nation's workforce development system in the immediate future.

Table 1:  
Summer 2005 Employment Rates of Teens by Household Income and Selected Race-  
Ethnic Group (in %, Not Seasonally Adjusted)

	(A)	(B)	(C)	(D)
Household Income	Asian	Black, not Hispanic	Hispanic	White, not Hispanic
Under 20,000	32.8	20.7	28.4	41.6
20,000 – 39,999	26.2	24.5	30.1	43.2
40,000 – 59,999	25.1	29.8	39.4	50.6
60,000 – 74,999	32.8	32.4	44.0	58.0
75,000 – 99,999	29.0	26.9	39.4	59.9
100,000+	34.6	42.2	42.2	57.0

Source: June-August 2005 CPS public use files, tabulations by authors.

Chart 4:  
Percent of Teens Who Worked During the Summer of 2005 by Selected Race-Ethnic and Household Income Groups (June-August average, not seasonally adjusted)



### **Geographic Variations in Teen Summer Employment Rates in the 50 States and the District of Columbia**

The year-round and summer employment rates of teenagers vary considerably across geographic regions, states, metropolitan areas, cities, and neighborhoods within cities.<sup>5</sup> To illustrate the degree of variability in teen summer employment rates and changes in those rates over time, we estimated teen summer employment rates in 1999-2000 (2-summer average) and 2004-2005 (2 summer average) for each state and the District of Columbia. We will also examine changes in the summer employment rates of teens between these two time periods. The averages of two consecutive summers were used to improve the statistical reliability of our

<sup>5</sup> See: Andrew Sum, Neeta Fogg, and Garth Mangum, Confronting the Youth Demographic Challenge: The Labor Market Prospects of the Nation's Out-of-School Young Adults, Sar Levitan Center for Social Policy Studies, Johns Hopkins University, Baltimore, MD, 2002.

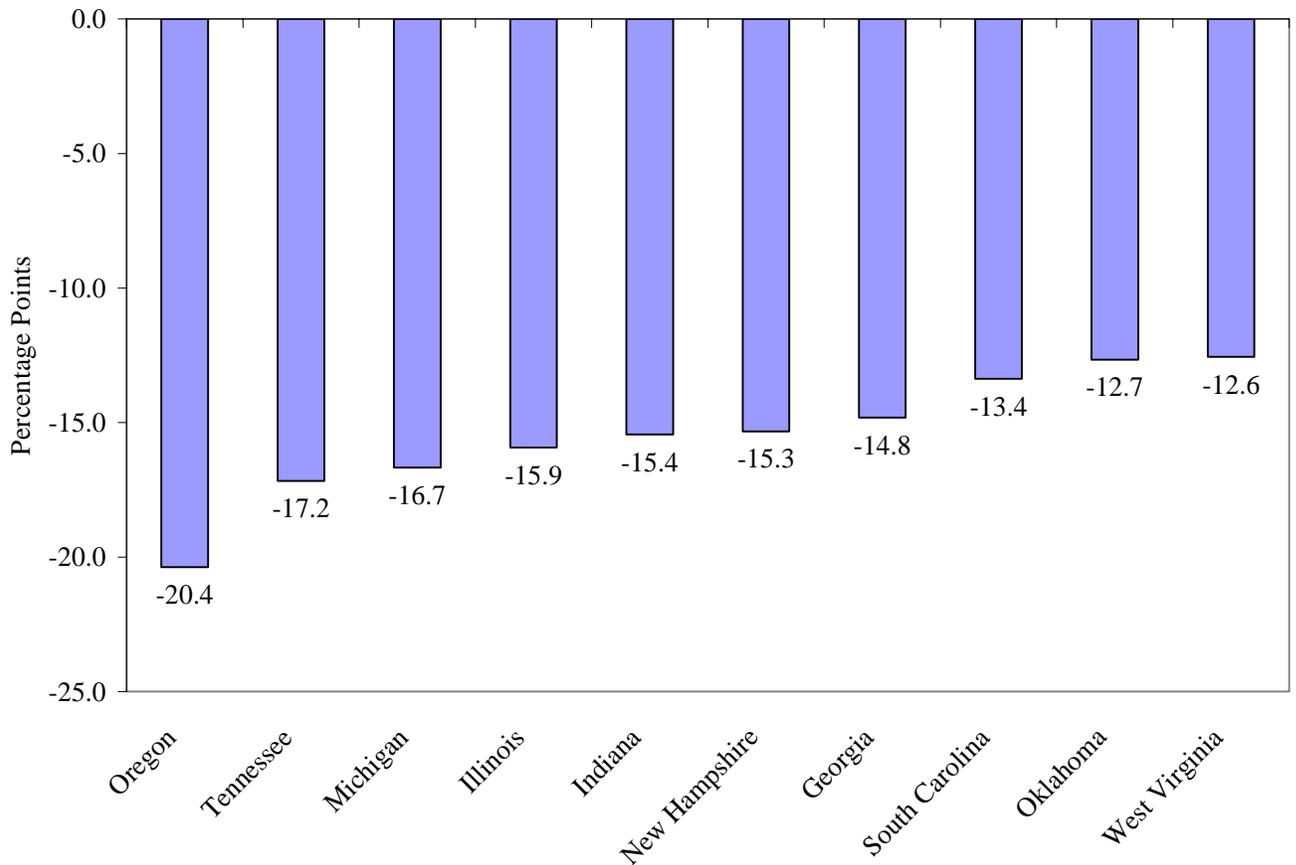
estimates, especially for states with small sample sizes in the monthly CPS survey. Table 2 displays a summary of the size of the percentage point changes in teen employment rates for the 50 states and the District of Columbia.

Table 2:  
Distribution of the 50 States and the District of Columbia by the Percentage Point Changes in Their Summer Teen Employment Rates, 1999/2000 – 2004/2005

Category	(A)	(B)
Magnitude of Percentage Point Change in Teen Summer E/P ratio	# of States in category	List of States in Category
Increased/Flat	2	Wyoming, Virginia
Decline of 10 or more percentage points	21	Oregon, Tennessee, Michigan, Illinois, Indiana, New Hampshire, Georgia, South Carolina, Oklahoma, West Virginia, Washington, Alaska, North Carolina, Arkansas, Utah, North Dakota, Mississippi, Alabama
Decline of 2 to 10 percentage points	28	All other states not listed above and D.C.

Between 1999/2000 and 2004/2005, teen summer employment rates declined in 48 states and the District of Columbia. The teen labor market collapse over the past five years has been widespread throughout the United States. Seven states experienced a decline of more than 15 percentage points in the employment rate of teens during the summer months. These states were: Oregon, Tennessee, Michigan, Illinois, Indiana, New Hampshire, and Georgia. Another 14 states had steep employment rate drops between 10 and 15 percentage points. Teens in Wyoming and Virginia were employed at approximately the same rate or slightly higher than they were in 1999/2000. The ten states with the steepest declines in teen summer employment rates between 2000 and 2005 are displayed in Chart 5.

Chart 5:  
The Ten States With the Greatest Percentage Point Declines in Teen Employment Rates,  
1999/2000 to 2004/2005 (2 Summer Averages)



In addition to ranking states by their estimated changes in teen summer employment rates between 1999/2000 and 2004/2005, we also ranked the states by the size of their teen employment rates during the summer months of 2004 and 2005 (2-summer average). Teen summer employment rates in 2004/2005 ranged from lows of 23.6 percent in the District of Columbia and 31 percent in Mississippi and West Virginia to highs of 69.4 and 69.7 percent in Wyoming and South Dakota. Seven states had teen summer employment rates above 60%, down from 20 states with such high employment rates during the summers of 1999 and 2000. In 29 states and the District of Columbia, fewer than 50% of teens worked during the summer months of 2004/2005. Although the teen summer labor market is weak nationally and in most states, the ability of teens to obtain summer jobs varies substantially across the 50 states and the District of Columbia.

Table 3:  
The Ten States With the Highest and Lowest Teen Summer Employment Rates, 2004/05

States	Teen Summer Employment Rate (in %)
<u>Top Ten</u>	
South Dakota	69.7
Wyoming	69.4
Nebraska	64.0
Iowa	62.3
Minnesota	62.3
North Dakota	61.5
Wisconsin	60.9
Montana	59.6
Maine	59.5
Vermont, Kansas (tied)	59.3
<u>Bottom Ten</u>	
Washington D.C.	23.6
Mississippi	31.3
West Virginia	31.3
California	32.5
Louisiana	33.2
Georgia	34.8
Alabama	35.3
Texas	36.1
Arkansas	36.6
Florida	37.1

Six of the ten states with the steepest declines in teen summer employment rates between the summers of 1999/2000 and the summers of 2004/2005 are states with JAG affiliate programs. Of the bottom ten states listed in Table 3, seven are states with JAG affiliate programs. It is clear that many JAG programs have operated in states where the teen labor market has fared very poorly over the last four summers and in states where many teen summer employment rates rank in the bottom half of the 50 states (Tables 2, 3, & 4).

Table 4:  
Change in Teen Summer Employment Rates in the 28 JAG States Between 1999-2000 and 2004-  
2005 (Ranked by Percentage Point Change in Descending Order)

	(A)	(B)	(C)
	1999-00	2004-05	Percentage Point
	Average	Average	Change
Virginia	51.1	51.6	0.5
Montana	61.6	59.6	-2.1
Maine	61.8	59.5	-2.3
New Mexico	41.5	37.5	-4.0
Colorado	53.7	48.3	-5.4
Massachusetts	61.7	56.0	-5.7
Connecticut	54.9	49.1	-5.9
Missouri	62.5	55.1	-7.3
California	40.2	32.5	-7.7
Delaware	57.8	50.0	-7.8
Iowa	70.3	62.3	-8.0
Ohio	59.6	51.2	-8.4
Kentucky	52.2	43.8	-8.5
Louisiana	41.8	33.2	-8.6
Wisconsin	69.7	60.9	-8.7
Arizona	48.3	39.5	-8.8
Minnesota	71.4	62.3	-9.1
U.S. Total	52.1	42.9	-9.2
New Jersey	50.3	40.8	-9.5
Florida	46.6	37.1	-9.5
Alabama	45.0	35.3	-9.7
Mississippi	41.1	31.3	-9.7
Arkansas	47.7	36.6	-11.0
West Virginia	43.9	31.3	-12.6
South Carolina	51.3	37.9	-13.4
Georgia	49.7	34.8	-14.8
New Hampshire	70.4	55.1	-15.3
Illinois	58.9	43.0	-15.9
Tennessee	57.0	39.9	-17.2

## The Projected Summer 2006 Job Outlook for the Nation's Teens

How well are the nation's teens likely to fare in the job market this summer? To answer this important question, we will rely on forecasts from a simple regression model of teen summer employment rates that we developed three years ago.<sup>6</sup> This regression model was estimated with the use of national CPS data on teen employment rates for the years 1980 through 2002. The model was designed to predict the average summer teen employment rate for the months of June-August (seasonally adjusted) with the use of data on the estimated employment rates of teens in the winter and early spring of each year (January-April). There typically is a large influx of teens into the civilian labor force during the summer months as students from high school graduate or go on summer vacation. During recent years, approximately two million additional teens have entered the labor market in June and July in search of work. For example, there were 6.59 million teens active in the civilian labor force on average during the January-March 2004 period, but the teen labor force swelled to approximately 8.42 million during the months of June and July of 2004, a gain of 1.83 million teens. The ability of these teens to obtain jobs during the summer should be strongly associated with their success in obtaining jobs earlier in the year. Many teens employed during the winter and spring continue on those same jobs during the summer.

In our prediction model, the summer teen employment rate (seasonally adjusted, June-August average) is regressed against the teen employment rate during the first four months of the year (January-April, seasonally adjusted). Findings of our regression results are displayed in Table 5. The predicted summer teen employment rate for a given year (in percentage points) will be equal to  $43.8 + (.93)$  times the average monthly adjusted teen employment rate for the first four months of the calendar year.<sup>7</sup> The higher the teen employment rate during the January-April period, the higher will be the predicted summer employment rate. The overall fit for the simple regression model was quite respectable (an  $R^2$  of approximately .74, which was highly significant at the .001 level).

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<sup>6</sup> For a review of the construction of the simple teen employment forecasting model, the basic elements of the regression model, and its use in predicting the teen employment rate for the summer of 2003, See: Andrew Sum, Nathan Pond, and Mykhaylo Trubs'kyy with Sheila Palma, The Summer Job Market for the Nation's Teenagers from 2000 – 2002 and the Employment Outlook for the Summer of 2003....,

<sup>7</sup> The variable is referred to as the "adjusted winter/spring employment rate" since its value is not the actual employment rate from January-April but rather the value obtained by subtracting 43.8 from the estimated teen employment rate for the first four months of the year.

Table 5:  
Findings of the Regression Model Estimates of the Summer Teen Employment Rate in the U.S.  
Based on Observations from 1980 to 2002  
(Seasonally Adjusted E/P Rates in %)

	(A)	(B)	(C)	(D)
Regression Variable	Coefficient	Standard Error	t-statistic	Sig. of t
Constant	43.8	.24	177.8	.001
WINSPREP	.93	.12	7.67	.001

R<sup>2</sup> = .737

D.F. = 1, 21

F = 58.8

Sig. of F = .001

Another method for assessing the predictive accuracy of the regression model is to compare predicted summer employment rates for years outside of the time period covered by the regression with the actual summer employment rates for those years. Comparisons of the predicted and actual summer teen employment rates for 2000, 2003, 2004, and 2005 are displayed in Table 6. For the summer of 2000, a year within the model, the predicted summer employment rate was 45.3%, which was nearly identical to the actual 45.0% employment rate for that summer. For the Summer of 2003, the first prediction lying outside of the data set used to construct the model, we estimated a summer employment rate of only 37.8%, but our prediction turned out to be a little too optimistic. The CPS survey's estimated teen employment rate for the summer of 2003 was only 36.5%, or 1.3 percentage points below our prediction. In other words, teens fared somewhat less well than our model had predicted. For the summer of 2004, we predicted an employment rate of 36.9%. The actual, estimated employment rate for the summer was 36.1%, a value .8 percentage points below that of our prediction. Again, our model was slightly too optimistic. For the summer of 2005, our predicted teen summer employment rate came within .1 percentage points of exactly matching the CPS survey's estimated teen employment rate. The model has done a very good job in predicting teen summer employment rates over the past three years.

Table 6:  
Comparisons of Predicted and Actual Summer Employment Rates of the Nation's Teens,  
Summer of 2000, 2003-2006 (Seasonally Adjusted, in %)

	(A)	(B)	(C)
Year	Predicted	Actual	Actual – Predicted
2000	45.3	45.0	-.3
2003	37.8	36.5	-1.3
2004	36.9	36.1	-.8
2005	36.7	36.8	+.1
2006	37.4	?	?

The 2006 summer jobs outlook for the nation's teens appears to be modestly better than last year, but still far below the employment rates that prevailed in the summer of 2000 and especially 1989. During the first three months of this year, the seasonally adjusted, teen employment rate averaged 36.9% or .7 percentage points above that for the same three month period in 2005 (Table 8).<sup>8</sup> Despite strong job growth in the nation since the summer of 2002, teens have until recently been unable to capture any substantive share of these new employment opportunities.

For example, the number of employed civilian (16+) in the U.S. began to rise fairly steadily starting in the late summer of 2002.<sup>9</sup> Between August-October of 2002 and January-March 2005, the number of employed working-age residents rose by 3.367 million while the number of employed teens fell by another 442,000 (Table 7). Teens failed to capture any of the net gains in employment over this 32 month period. Since January-March 2005, total employment in the nation rose by nearly another 3 million, and teens did capture a fair share (7.4%) of these jobs, with their numbers rising by 220,000 (Table 7). However, over the entire three and one-half year period, teen employment had not yet recovered its level in August-October 2002. It was still 222,000 below, and the August-October 2002 employment level was nearly one million teens below the peak teen employment level of 7.319 million in April-June of 2000. The absence of any net teen employment growth over the past four years is somewhat

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<sup>8</sup> Although, the regression model is based on findings using 4 months, January-April, our prediction for 2006 relies on data available for the first three months of 2006. The April CPS monthly data were not available at the time of publication. They will be released by the U.S. Bureau of Labor Statistics on May 5<sup>th</sup>.

<sup>9</sup> In November-December 2002, there was a temporarily drop in employment that reversed itself starting in January 2003.

puzzling given past relationships between overall job growth in the economy and teen job growth, but teens have been facing growing competition for available jobs from older adults (55+), immigrants, and young adults (20-24) who are unable to find jobs in career labor markets.

Table 7:  
Changes in Total Civilian Employment (16+) and Teen Employment (16-19) Between August-October 2002 and January-March 2005 and Between January-March 2005 and January-March 2006 (in thousands, seasonally adjusted)

	(A)	(B)	(C)
Time Period	Persons 16+	Teens 16-19	% of Employment Change Captured by Teens
August-October 2002 to January-March 2005	3,367	-442	0
January-March 2005 to January-March 2006	2,957	220	7.4
August-October 2002 to January-March 2006	6,324	-222	0

Source: U.S. Bureau of Labor Statistics, website, [www.bls.gov](http://www.bls.gov), tabulations by authors.

Inserting the seasonally adjusted teen E/P ratio for the first three months of 2006 into our regression model, we predict a summer employment rate of 37.4% for the coming summer. This teen employment rate would slightly improve upon last summer's performance by .7 percentage points, but remain as one of the three lowest in the past 57 years. Continued strong growth in payroll employment during the late spring and early summer could help to modestly boost the summer teen employment rate by up to a percentage point. There is, however, no hope for a substantial jump in the teen employment rate this summer. Following the recovery from the 1981-82 and 1990-91 recessions, it took four consecutive years of strong job growth to raise the summer teen employment rate by four percentage points even with a well funded summer jobs program for economically disadvantaged youth in place.<sup>10</sup>

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<sup>10</sup> For example, four years of very strong job growth from 1982 to 1986 raised the teen summer employment rate from 40.8% to 44.7%, a gain of just under 4 percentage points or 1 percentage point per year.

Table 8:  
The Employment/Population Ratios of U.S. Teens 16-19 from  
January-April 2004 to January-March 2006 (Seasonally Adjusted, in %)

	(A)	(B)	(C)	(D)
Month	2004	2005	2006	Percentage Point Change 2006 – 2005
January	36.9	36.3	36.7	+4
February	36.3	35.6	37.1	+1.5
March	36.0	36.6	37.0	+4
April	36.4	36.1	?	?
January-April Average	36.4	36.2	36.9*	+7*

Note (\*): Includes January – March data only.

Source: U.S. Bureau of Labor Statistics, web site, tabulations by authors.

### **Estimating the Increase in the Number of Employed Teens in the U.S. During the Summer of 2005 Under Three Different Job Market Scenarios**

The reduced private and public sector demand for teens over the past three summers in the nation has pushed their employment rates well below those that prevailed in the summer of 2000. How many more teens might have been employed during the summers of 2005 if youth had been able to achieve various target employment rates? We will generate estimates of the additional number of teens that would have been employed during the summer of 2005 under each of the following three labor market scenarios:

- The summer 2005 E/P ratio for teens was equal to the E/P ratio that prevailed in the summer of 2000.
- The summer 2005 E/P ratio for teens was equal to the E/P ratio that prevailed in 1989, the peak summer employment rate over the last 20 years.
- The summer 2005 E/P ratio for teens in each race-ethnic group and among low to moderate income Whites was the same as the E/P ratio of White teens residing in households with annual family incomes above \$60,000 during the summer of 2000.

Under the first scenario, we derive estimates of the number of teens that would have been employed in the summer of 2005 if the summer 2000 E/P ratio had prevailed by

multiplying the teen population in the summer of 2005 by the summer 2000 teen E/P ratio. The hypothetical level of employment would have been approximately 7.380 million teens, representing an increase of 1,351 million employed teens. In scenario two, we simply replace the teen summer E/P ratio of 2000 with the higher E/P ratio of 1989 and multiply the 1989 rate by the teen population during the summer months of 2005. This results in a hypothetical level of employment of nearly 7.94 million teens. If the teen E/P ratio of 1989 prevailed during the 2005 summer, there would have been 1.9 million more employed teens.

Table 9:  
Estimating the Hypothetical Increase in the Number of Teens Employed During the Summer of 2005 Under Scenarios One and Two

	(A)	(B)	(C)	(D)
<u>Scenario</u>	2005 Teen Population (in 1,000s)	2005 Actual Employed Teens (in 1,000s)	Hypothetical Employed Teens (in 1,000s)	Increase in Teen Employment (Hypothetical – Actual)
Scenario One- 2000 E/P Ratio Prevailed	16,400	6,029	7,380	1,351
Scenario Two- 1989 E/P Ratio Prevailed	16,400	6,029	7,938	1,907

In our third scenario, we estimate how many more teens would have been employed during the summer of 2005 if their employment rates matched the employment rates of White teens residing in households with annual family incomes above \$60,000 during the summer of 2000. This scenario takes into account both the better labor market prospects of teens during the summer of 2000 as was the case under scenario one and the higher employment rates of White teens from more affluent families during that summer. The summer 2000 employment rate of White teens residing in households with annual family incomes greater than \$60,000 was 64.5%, nearly 20 percentage points above the national average during that summer. Table 10 displays the additional number of teens by race-ethnic group that would have been employed during the summer of 2005 under this scenario. An additional 2.5 million teens would have been at work under this scenario. Clearly, there is substantial room for improving the number of employed teens this coming summer, especially the number of employed teens from low to middle income families.

Table 10:  
Estimates of the Hypothetical Increase in Teen Summer Employment by Race-Ethnic Group During the Summer of 2005 Under Scenario Three

	(A)	(B)	(C)	(D)	(E)
	White < \$60,000	Black	Hispanic	Asian	Total* Excl. White > \$60,000
Population	3,941,779	1,924,480	2,236,970	474,772	10,164,024
Actual Employed	1,795,213	502,829	754,740	141,271	4,033,901
Hypothetical Employed in 2005	2,542,447	1,241,290	1,442,846	306,228	6,555,795
Additional Teens Employed in 2005 (Hypothetical – Actual)	747,234	738,461	688,106	164,957	2,521,894

Note: Total includes teens that identify themselves as members of Mixed or Other races.  
Source: June-August 2000 and 2005 CPS public use files, tabulations by authors.

### **The Influence of In-School and Early Post-High School Summer Work Experiences of JAG Graduates on their Employment Status in the First Year After Graduation: Findings for the Class of 2003**

Youth work experience during the high school years and the early post-high school period has impacts that well beyond the immediate employment and earnings that provide to youth. The employment status of teens over time is characterized by a high degree of path dependency.<sup>11</sup> The likelihood that a teen will be working in time period  $t$  is strongly linked to his / her employment status in earlier time periods  $t-1$ ,  $t-2$ , and their employment status in the following time period ( $t + 1$ ) will be significantly influenced by their employment status in time  $t$ . As we have illustrated elsewhere, “Early work experience begets more work experience.”<sup>12</sup> To illustrate the nature of these relationships for youth across the country, we analyzed the findings of the March 2005 CPS survey on the employment behavior of 16-20 year old high school students. The March CPS survey also contains a work experience supplement that collects information on the number of weeks that each working-age respondent was employed in the

<sup>11</sup> For a more detailed review of the path dependency of teen employment.

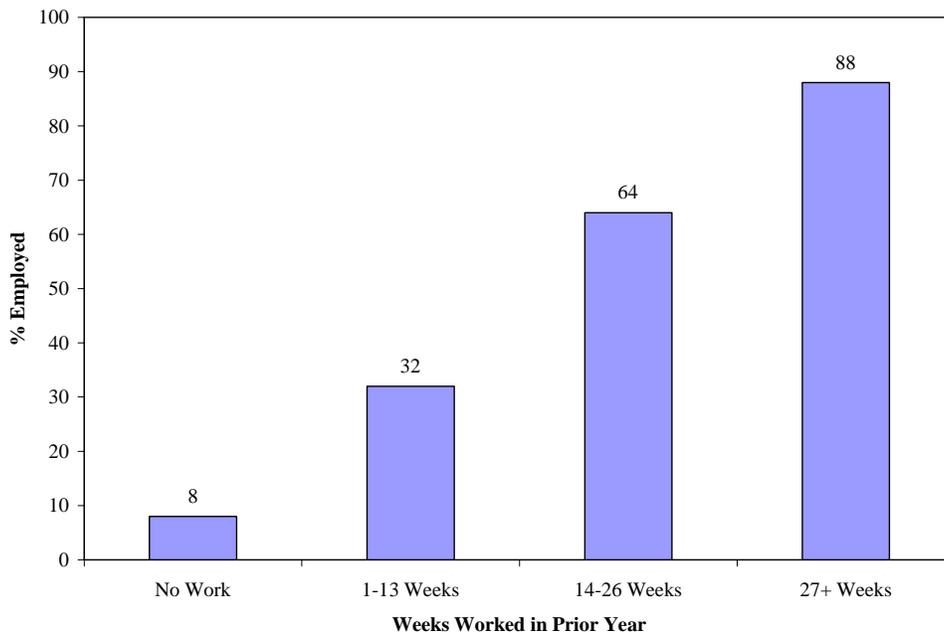
See: Andrew Sum, Joseph McLaughlin, Ishwar Khatiwada, Tim Barnicle, Educational and Labor Market Outcomes for the Nation’s Teens and Young Adults Since the Publication of America’s Choice, Report Prepared for the National Center on Education and the Economy, Washington, D.C., 2006

<sup>12</sup> See: Andrew Sum, Neeta Fogg, and Garth Mangum, Confronting the Youth Demographic Challenge...

prior calendar year; i.e., 2004. In Chart 6, we display the percent of the nation's 16-20 year old high school students who were employed in March 2005 by their weeks of employment in the previous year. Each student was assigned to one of the following four work experience categories:

- No work in the prior year
- 1-13 weeks of employment
- 14-26 weeks of employment
- 27 or more weeks of employment

**Chart 6:**  
**Per Cent of 16-20 Year Old High School Students Who Worked in March 2005 by Weeks Worked in Previous Calendar Year**



The March 2005 employment rates of these students ranged from only 8 percent among those with no weeks of paid work in 2004 to 32 percent for those who worked 1-13 weeks and to a high of 88 percent for those who worked six months or more. Students in the last work experience category were 11 times more likely to be working in March 2005 than their peers with no work experience in the prior year. These employment relationships also were very strong for men and women and for Asians, Blacks, Hispanics, and Whites. Clearly, there is very strong path dependency in employment during the high school years.

As noted earlier, there is a substantial body of empirical research at the national, state, and local level that confirms the statistical links between work experience in high school and the early post-high school employment experiences of high school graduates. The JAG student record keeping system collects information on the employment status of Senior Year program participants at the time of their entry into the program. For Class of 2003 graduates, we tracked their employment / schooling status in the summer of 2003 (June – July follow-ups) and compared these outcomes to their employment status in high school. Findings on the simple statistical associations between their high school employment status and their employment / unemployment / schooling status in the summer of 2003 are summarized in Table 11. Those students who were employed in high school enjoyed a substantial summer employment advantage over their peers who did not work in high school.<sup>13</sup> Over 72% of those JAG participants with some high school work experience were employed, including military service, in the June-July followup period versus only 40 per cent of their peers without in-school work experience, a 33 percentage point difference. The summer employment rate advantages of those youth who worked in high school were very large for both those attending school in the summer (28 points) and those not enrolled in a college or post-secondary training program (32 points) in June-July 2003. The summer employment advantages of JAG participants with in-school work experience were primarily attributable to a much lower unemployment rate. Of those JAG graduates with no reported work experience at time of intake, the summer 2003 unemployment rate was 53% versus only 22% for those with some in-school work experience. A much higher fraction of the group with no high school work experience were disconnected from both the labor market and the world of post-secondary schooling in the summer of 2003. Nearly 46 per cent of the group with no high school employment were neither working nor enrolled in college / training nor serving in the military versus only 21 per cent of the graduates with some high school employment, a relative difference of more than two to one on this key post-high school outcome measure.

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<sup>13</sup> Some of the JAG participants who were not employed at intake may have obtained some employment in high school before graduation, but the current tracking system does not record such information.

Table 11:  
Differences in Employment, Unemployment, Schooling, and  
Positive Activity Outcomes During the Summer of 2003 for JAG Graduates  
from the Class of 2003 by Employment Status in High School (in %)

Outcome Measures	(A)	(B)	(C)
	Employed in High School	Not Employed In High School	Percentage Point Difference in Outcomes (A – B)
Employed, including military service	72.2	39.6	+32.6
• Not enrolled in school	75.4	42.9	+32.5
• Enrolled in school	55.6	27.5	+28.1
Full-time civilian employment rate	37.1	19.7	+17.5
Unemployment rate	21.6	53.3	-31.7
Neither working nor enrolled in school	21.1	45.7	-24.6

To identify the path dependency between summer employment for Class of 2003 graduates and their employment status in the fall of 2003 and the spring of 2004, we analyzed the followup data for October 2003 and for May of 2004. The employment rates of Class of 2003 graduates in October of 2003 were calculated separately for those who worked in the summer and those who did not work in June / July 2003. Findings are presented for all graduates and for gender and race-ethnic subgroups in Charts 7 and 8. The October 2003 employment rate for those graduates who worked at some point in the summer was 60% versus only 23% for those with no summer work experience (Chart 7), a relative difference of 2.6 times. The differences in October 2003 employment rates between those with and without summer work experience were quite substantial for both men and women and for graduates from each of the four major race-ethnic groups. Among Black and Hispanic graduates, those who worked in the summer of 2003 were three times more likely to be employed in October of 2003 than their counterparts who did not work during the summer.

Chart 7:  
October 2003 Employment Rates of JAG Class of 2003  
Graduates by Their Summer 2003 Employment Status, All and by Gender  
 (in %)

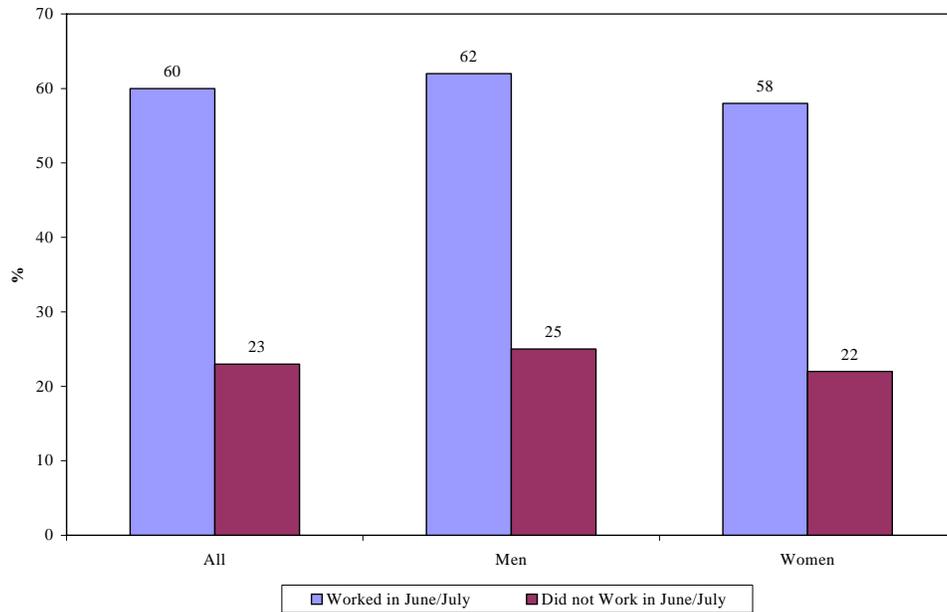
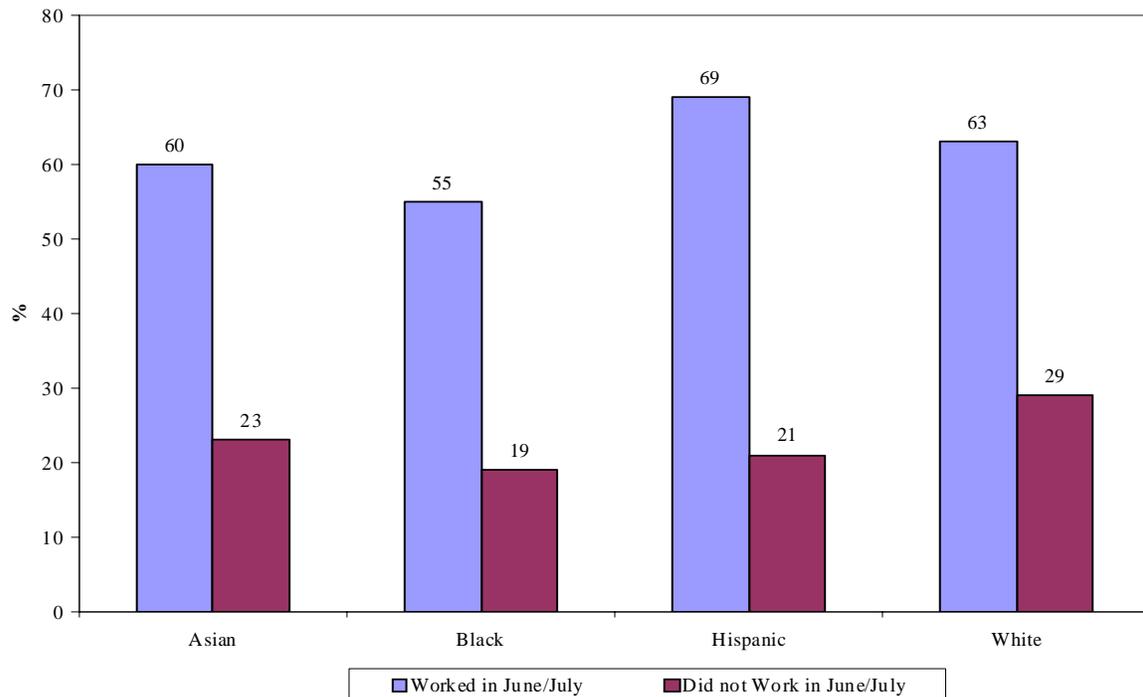


Chart 8:  
October 2003 Employment Rates of JAG Class of 2003 Graduates by Their Summer 2003  
Employment Status by Race-Ethnic Group (in %)



The May 2004 employment rates of graduates from the Class of 2003 by their summer 2003 employment status are displayed in Charts 9 and 10. Sixty-four per cent of the graduates with some employment during the June / July 2003 period were working in May 2004 versus only 36 per cent of those with no summer work experience. Again, the differences in employment rates between these two groups were quite substantial for both men and women and for members of each of the four race-ethnic groups. Black and Hispanic graduates with some work experience during the summer of 2003 were twice as likely to be working in May 2004 as their counterparts with no summer work experience. Among Asian and White graduates, the percentage point difference in employment rates was 23 to 27 percentage points between those with and without summer 2003 work experience. The findings in Charts 7 through 10 provide very strong evidence of the importance of immediate post-high school work experience in promoting the employability of graduates in the fall and late spring of the first year following graduation from high school. The simple statistical associations between these employment status variables for high school graduates were very strong for each gender and race-ethnic subgroup of JAG graduates from the Class of 2003.

Chart 9:  
May 2004 Employment Rates of JAG Class of 2003 Graduates  
by Their Summer 2003 Employment Status, All and by Gender  
(in %)

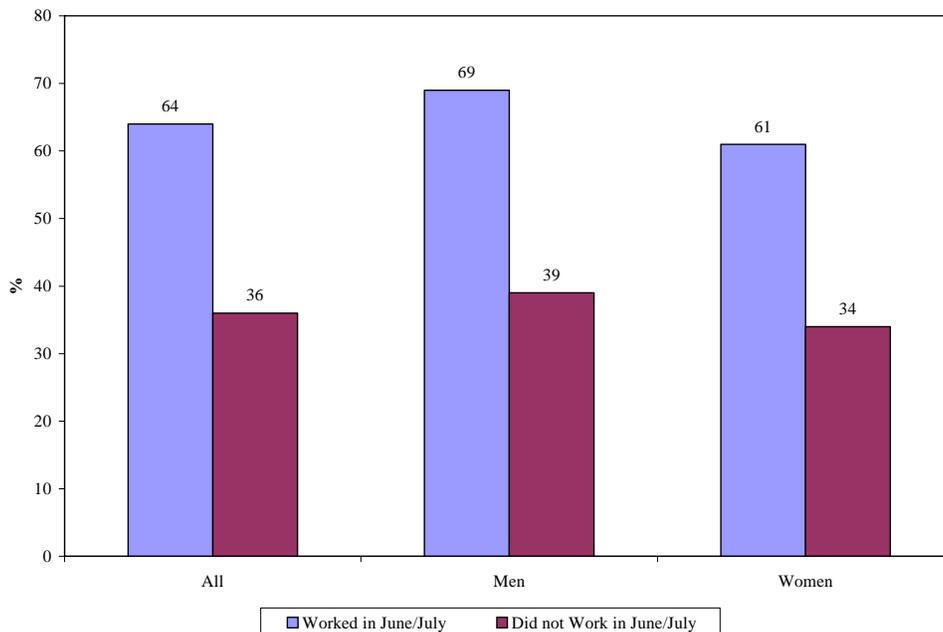
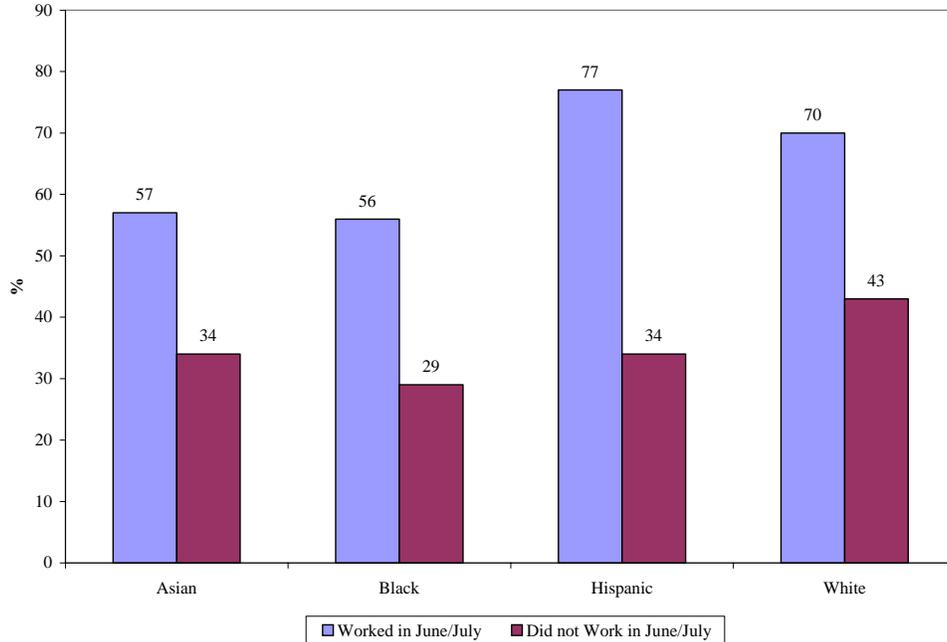


Chart 10:  
May 2004 Employment Rates of JAG Class of 2003 Graduates by  
Their Summer 2003 Employment Status by Race-Ethnic Group  
(in %)



To estimate the independent impacts of in-school and post-high school summer work experience on the employment of high school graduates in the fall and spring following graduation, we constructed a set of multiple regression models of the probability of employment of 2003 graduates in October 2003 and May 2004. In both of these models, the dependent variable is the employment status of the JAG graduate at the time of each followup survey. Those employed at the time of the survey are coded as a one while those not employed are coded as zero. The predictor variables include the gender, race-ethnic origin, and family living arrangements of the graduates at the time of the intake survey as well as his / her employment status in high school and during the summer of 2003. Each of the predictor variables is coded as a 1,0 variable. Findings of the regression models are displayed in Tables 12 and 13.

Table 12:  
Findings of the Multiple Regression Analysis of the Probability of a JAG  
Class of 2003 Graduate Being Employed in October 2003

	(A)	(B)	(C)
Predictor Variable	Coefficient	t-Statistic	Sig. Level
Constant	.287	14.80	.001
Male	.037	2.46	.01
Asian or Another Race	-.088	-1.81	.07
Black, not Hispanic	-.105	-6.52	.001
Hispanic	.037	.89	--
Lived in married couple family	-.010	-.63	--
Worked in high school	.065	4.03	.001
Worked in summer	.373	22.15	.01

$R^2 = .170$

Sig. of F = .001

F = 110.40

Table 13:  
Findings of the Multiple Regression Analysis of the Probability of  
a JAG Class of 2003 Graduate Being Employed in May 2004

	(A)	(B)	(C)
Predictor Variable	Coefficient	t-Statistic	Sig. Level
Constant	.426	22.22	.001
Male	.054	3.64	.01
Asian or Another Race	-.111	2.28	.02
Black, not Hispanic	-.152	9.45	.001
Hispanic	.020	.50	--
Lived in married couple family	.008	.50	--
Worked in high school	.101	6.31	.001
Worked in summer	.261	15.50	.001

$R^2 = .137$

Sig. of F = .001

F = 85.39

In each of the two models, the employment status of the respondent during high school and the summer months immediately following high school had positive, statistically significant impacts on the likelihood of their being employed in both October 2003 and May 2004. The estimated impact of the summer employment variable on the probability of employment in October and May was considerably greater than the impact of the in-school employment variable. For example, in the October 2003 model, working in the summer immediately

following graduation increased the probability of working in October by 37.3 percentage points while working in high school raised the probability by only another 6.5 percentage points, a relative difference of nearly 6 times.

In the multivariate statistical model predicting the employment status of Class of 2003 graduates in May 2004, being employed in the summer raised the probability of expected employment in May by 26 percentage points while high school employment increased the probability by another 10 percentage points, a relative difference of 2.6 times.

To place the findings on the importance of in-school and summer 2003 work experience in promoting post-high school employability in perspective, we generated estimates of the probability of high school graduates with given demographic and family background traits being employed in October 2003 and May 2004 based on their in-school and summer employment status. In our first example, the high school graduate is a White, woman who lived in a single parent family during her senior year. If she did not work in high school or in the summer of 2003, her estimated probability of being employed in October 2003 was just under 29%. If she had worked in high school but not in the summer of 2003, her predicted employment rate was 35%. If she had worked both in high school and during the summer of 2003, her predicted probability of working in October 2003 was between 72% and 73%. This last individual was two and one-half times more likely to be working in October 2003 than her peers with no work experience in high school or the summer, a dramatic difference in employment rates.

In our second case, the base individual is a Black, male graduate from the Class of 2003 who lived in a married couple family during his senior year of high school (Table 14, lower half). If he did not work either in high school or in the summer 2003, his predicted probability of employment was 33.6%. His expected probability of working would rise to 43.7% if he worked in high school but not the summer of 2003 and would increase further to just under 70% if he worked in both high school and the summer of 2003. The post high school employment rates of young Black, male graduates from the Class of 2003 were powerfully influenced by their employment experiences in high school and the summer immediately following graduation.

Table 14:  
Predicted Employment Rates of Selected Subgroups of JAG  
High School Graduates in October 2003 and May 2004

Subgroup of High School Graduates	Predicted Employment Rates, October 2003
White female, in single parent family, did not work in high school or summer 2003	28.7%
White female in single parent family, worked in high school, but not in summer 2003	35.2%
White female in single parent family, worked both in high school and in summer 2003	72.5%
Subgroup of High School Graduates	Predicted Employment Rates, May 2004
Black male, married couple family, did not work in high school or summer 2003	33.6%
Black male, married couple family, worked in high school but not in summer 2003	43.7%
Black male, married couple family, worked in both high school and summer 2003	69.8%

### **What Can Be Done to Improve Summer Job Prospects for JAG Program Participants?**

Given the continued weakness in the teen labor market and the absence of any jobs stimulus program to boost teen summer employment prospects, the 2006 summer job outlook for the nation's teens remains rather bleak, especially for those teens living in low income families and neighborhoods, minority youth living in large central cities, and teens residing in economically depressed rural areas. There is, however, considerable geographic variations in teen employment across states, cities, and neighborhoods. The labor market for teens also has improved modestly over the past year. Some JAG programs will find it much easier to place JAG participants in jobs while other will find it considerably more difficult.

Given the projected softness in the labor market for many of the nation's teens this coming summer, JAG job specialists in the Senior Year program will have to work considerably harder to place more of the graduating seniors in jobs during the forthcoming summer. Job placements will be especially difficult for programs serving high school graduates in local labor markets with high unemployment, those areas with a large new immigrant workforce, and those serving a high share of graduates living in low income families and neighborhoods. Teens living in such geographic areas and families in the past few summers have found it very difficult to find any type of job. Career specialists in JAG multiyear programs also will have to work much harder to find jobs for those high school students on summer vacation. Such early work experience during the summer and the regular school year can significantly improve their later employment prospects.

Local JAG program directors should encourage job specialists to devote a higher share of their time to job development and placement activities this summer. Many of the graduates from the Senior Year program will need the job brokering services of the job specialists to find some type of employment in the current labor market environment for teenagers. State and local JAG leadership should also seek the active assistance of state and local board members to help open up job opportunities for our recent graduates. All available private and public resources should be marshaled to expand immediate job opportunities for JAG graduates from the Class of 2006 and those high school students in the Multi-Year Program.

Far fewer youth across the nation are gaining exposure to the job market and to the real world of work than in the late 1980s and 1990s. Youth not enrolling full-time in four year colleges upon graduation from high school tend to obtain important economic benefits from in-school work experience, both year-round and summer, and from employment in their late teens when they leave high school. Such work experience can be an important form of human capital investment, helping build non-cognitive skills, soft skills, as well as occupational skills on the job that will improve their future employability and real wage prospects.<sup>14</sup> As the evidence for

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<sup>14</sup> For evidence on the economic benefits of early work experience, See: Andrew Sum, Neeta Fogg, and Garth Mangum, Confronting the Youth Demographic Challenge: The Labor Market Prospects of Out-of-School Youth, Sar Levitan Center for Social Policy Studies, Johns Hopkins University, Baltimore, 2000. An analysis of the effects of non-cognitive skills on the labor market experiences of young adults is presented in the following chapter: James J. Heckman and Pedro Carneiro, "Human Capital Policy," in *Inequality in America*, (Editor: Benjamin M. Friedman), MIT Press, Cambridge, 2003.

the Class of 2003 has clearly shown, graduates who worked during high school were considerably more likely to be working at the time of the fall 2003 and spring 2004 follow-up surveys of graduates from the class of 2003.