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## The great recession of 2007-2009 : its post-World War II record impacts on rising unemployment and underutilization problems among U.S. workers

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The Great Recession of 2007-2009: Its Post-  
World War II Record Impacts on Rising  
Unemployment and Underutilization Problems  
Among U.S. Workers

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“For the measure that you measure with, shall be measured back unto you.”  
Luke, Ch.6 v. 36

“In America, Barton, we only do what we measure.”  
Daniel Patrick Moynihan

“Not only our future economic soundness but the very soundness of our democratic institutions depends on the determination of our government to give employment to idle men.”  
Franklin D. Roosevelt

## **Introduction**

At the end of May of this year, the U.S. economy had just completed its 18<sup>th</sup> consecutive month in a recession that began in December of 2007.<sup>1</sup> This current 18 month duration tied the recession of 1981-82 for the longest lasting recession in post-World War II history, and the Great Recession of 2007-2009 will establish a new record for continuous duration at the end of this month (June 2009).

In his national address to a Joint Session of Congress on February 24<sup>th</sup>, President Obama commented that “You don’t need to hear another list of statistics to know that our economy is in crisis, because you live it every day. The impact of this recession is real, and it is everywhere.”<sup>2</sup> Since February, national labor market conditions have continued to weaken considerably. From February through May, the national number of nonfarm payroll jobs has declined by another 1.5 million, average weekly hours of work by production and nonsupervisory workers has declined by another 2 hours, aggregate weekly hours of work by production workers on private sector payrolls has declined at an annualized rate of close to 9%, and the nation’s unemployment rate (seasonally adjusted) rose from 8.1% to 9.4%, the highest monthly unemployment rate since 1983.<sup>3</sup>

In addition to rapidly rising open unemployment, workers also have experienced a variety of other labor market problems, including underemployment (working fewer hours than desired), withdrawals from active labor force participation (hidden unemployment), and mal-employment

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<sup>1</sup> For an earlier review of key features of the eleven post-World War II recessions, including the current recession, See: Andrew Sum, Ishwar Khatiwada, and Joseph McLaughlin, The Economic Recession of 2007-2009: A Comparative Assessment of Its Duration and Labor Market Severity, Center for Labor Market Studies, Northeastern University, March 2009.

<sup>2</sup> The White House Press Office, Remarks of President Barack Obama – Address to Joint Session of Congress, Washington, D.C., February 24, 2009.

<sup>3</sup> U.S. Bureau of Labor Statistics, The Employment Situation: May 2009, [www.bls.gov](http://www.bls.gov), June 5, 2009.

(being employed in jobs that do not fully utilize one's occupational skills and formal schooling). These heightened labor market problems have sharply reduced the current real output of the U.S. economy and will adversely affect our future output potential. In his recent analysis of the causes and consequences of the current recession, Richard Posner has argued that the nation will experience a Gross Domestic Product (GDP) gap of 8.3% in the current year, the largest such gap between actual and potential output in the country since the end of World War II.<sup>4</sup> Given the steep increases in unemployment and underemployment since the beginning of this year, the GDP gap could rise closer to 10% of its potential by the end of the year. The absolute size of such a GDP gap would be close to \$1.5 trillion dollars.

This research paper on the labor market impacts of the Great Recession of 2007-2009 is designed to achieve several purposes. First, we will track changes in the nation's overall unemployment rate from the month prior to the beginning of the recession in December 2007 through May 2009 and compare the magnitude of the rise in the unemployment rate over this 18 month period with those of the previous ten recessions since the end of World War II. Findings will reveal that the rise in the overall unemployment rate over this 18 month period in the current recession is greater than that of any other recession since the end of World War II. The current economic downturn truly is a Great Recession if not a Depression as recently suggested by Richard Posner.<sup>5</sup> Second, we will identify the growth of an array of labor market problems over the course of the current recession, estimate the pool of underutilized workers from November 2007 to May 2009, and compare the increases in underutilization rates of workers over the past six recessions in the United States. The rise in the incidence of underutilization problems in the current recession has represented a new historical high, and the recession is still not over. Besides, improvements in labor underutilization rates in the recovery from the last two recessions lagged considerably behind output growth.

Third, we will estimate labor underutilization rates for U.S. workers in April 2009 in a wide array of demographic and educational groups and geographic areas and briefly assess their implications for the design and implementation of future workforce development policy. We will

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<sup>4</sup> See: Richard A. Posner, A Failure of Capitalism: The Crisis of 08 and the Descent into Depression, Harvard University Press, Cambridge, 2009.

<sup>5</sup> See: Richard Posner, Ibid.

begin with a review of the data sources and key unemployment and underemployment concepts and measures underlying the empirical analyses presented in this paper.

## **Data Sources and Concepts Underlying the Unemployment and Labor Underutilization Measures**

The official unemployment rates and the Sum-Khatriwada-McLaughlin labor force underutilization measures appearing in this research paper are based on a diverse array of labor force activity measures and data captured by the national monthly Current Population Survey. The monthly estimates of the size of the nation's civilian labor force, the employed and unemployed population and official unemployment rates also are based upon the findings of the Current Population Survey (CPS). The Current Population Survey is a national household survey conducted monthly by the U.S. Bureau of the Census for the U.S. Bureau of Labor Statistics with a nationally representative sample of households. In recent years, approximately 60,000 households per month were interviewed as part of the national CPS household survey.<sup>6</sup>

The CPS survey interviewers only collect labor force activity data from those household members 16 and older; i.e., those of working age. In conducting the Current Population Survey, the U.S. Census Bureau does not interview inmates of institutions (jails, prisons, nursing homes, mental institutions), the homeless including those living in temporary shelters, or members of the nation's armed forces whether stationed in the U.S. or abroad.<sup>7</sup> The universe for all of the CPS labor force estimates, the unemployed, and the underutilized is the civilian, non-institutional working age population (16 and older) (See Chart 1).

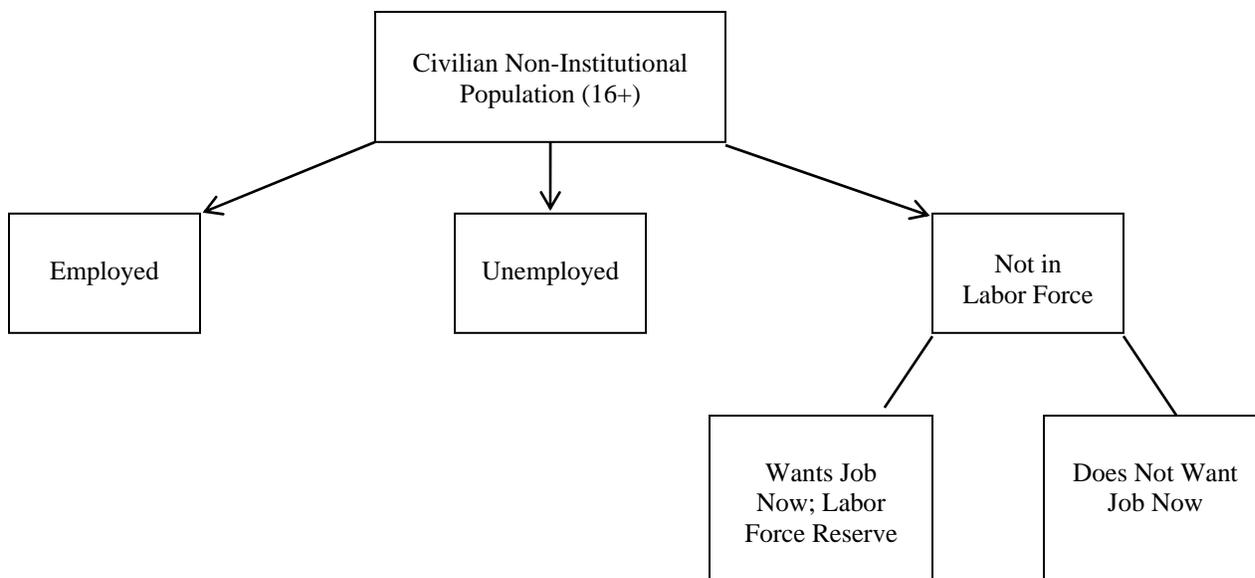
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<sup>6</sup> For a review of the key design features of the CPS household survey and the labor force concepts and measures underlying the survey,

See: U.S. Bureau of Labor Statistics, Employment and Earnings, January 2007, U.S. Government Printing Office, Washington, D.C., 2007.

<sup>7</sup> Some members of the nation's armed forces living off base in the U.S. are interviewed by the CPS survey. They are, however, excluded from the count of the civilian, non-institutional population and the civilian labor force.

Chart 1:  
The Conceptual Framework for Measuring the U.S. Civilian Labor Force, the Employed, the Unemployed Population, and the Labor Force Reserve



For each working-age (16 and older) household member, the U.S. Census Bureau collects data on their labor force activities in the calendar week immediately preceding the survey. The so-called reference week of the survey typically is the calendar week containing the 12<sup>th</sup> day of the month. The information on the labor force activities of each respondent is used to classify them into one of the following three, mutually exclusive labor force statuses: employed, unemployed, or not in the labor force (Chart 1). The employed are those persons who met one of the following criteria: worked one or more hours for pay or profit during the reference week, had a job from which they were temporarily absent for reasons such as paid vacation, sick leave, temporary illness, or worked without pay in a family owned business for 15 or more hours. The unemployed are those without jobs, who did not work in the reference week, have actively looked for a job in the past four weeks and were available to take a job during that week.<sup>8</sup> The remainder (those neither employed nor unemployed) are classified as not in the labor force. As will be revealed below, nearly six million members of those persons not actively participating in

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<sup>8</sup> Persons on temporary layoff from their job with a definite recall date from their employers do not have to meet the active job search test to be classified as unemployed. Passive job search activities, such as reading newspaper want ads or surfing internet job sites, do not count in meeting the definition of unemployment in the CPS household survey.

the labor force in recent months have expressed a desire for immediate employment even though they were not actively looking for work. Through a set of follow-up questions on their job desires and reasons for not actively seeking work, the CPS survey data can be used to identify members of the labor force reserve, persons who report a current job desire even though they are not actively seeking work.<sup>9</sup>

## **Measuring the Underutilized Labor Pool in the U.S.**

The labor market problems of working-age adults (16+) in the U.S. frequently go well beyond official unemployment as measured by the monthly CPS household surveys of the U.S. Census Bureau and the U.S. Bureau of Labor Statistics.<sup>10</sup> Being an employed member of the labor force does not guarantee that a worker is able to work his/her desired hours of work, achieve adequate weekly earnings, or fully utilize their educational/training skills on the job (the so-called mal-employed).<sup>11</sup> In addition to these under-employed and mal-employed individuals, there are millions of jobless individuals who desire to be employed but are not counted as members of the official civilian labor force since they do not meet the active job search criteria underlying the official unemployment measures. In a following section of the paper, we provide estimates of the number of U.S. adults who were unutilized or underutilized in different months from November 2007 to May 2009 and over the course of prior national recessions, estimate the

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<sup>9</sup> The U.S. Bureau of Labor Statistics provides monthly national estimates of a group called the marginally attached labor force. They are individuals who meet the criteria of being a member of the labor force reserve but also have looked for a job in the past 12 months and were available to take a job during the reference week of the survey. They are much smaller in size than the labor force reserve, accounting for only one-third of their numbers in recent months.

<sup>10</sup> For an earlier review by the authors of rising underutilization problems among U.S. workers during the current recession through June-July 2008, See: Andrew Sum and Ishwar Khatiwada with Joseph McLaughlin and Sheila Palma, Beyond Official Unemployment: Measuring the Size and Incidence of Labor Underutilization Problems Among U.S. Workers in 2008, Report Prepared for the U.S. Congress, House of Representatives Education and Labor Committee, August 2008.

<sup>11</sup> For a review of previous efforts to identify the degree of mal-employment or over-education among U.S. college graduates and those in other countries and their economic impacts on workers' earnings, See: (i) Russell Rumberger, "The Impact of Surplus Schooling on Productivity and Earnings," The Journal of Human Resources, Vol. 22, Issue 1, 1987, pp. 24-50; (ii) Richard Verdugo and Naomi Verdugo, "The Impact of Surplus Schooling on Earnings," The Journal of Human Resources, Volume 24, Issue 4, 1989, pp. 629-643; (iii) Stephen Rubb, "Post-College Schooling, Overeducation, and Hourly Earnings in the United States," Education Economics, Volume 11, No. 1, 2003; (iv) Andrew Sum and Neeta Fogg, "Malemployment and Over-education Problems", from Uses of Labor Market Information for An Analysis of State and Local Labor Market Problems, National Labor Market Information Training Institute, Washington, D.C., 1996; (v) Santiago Budria and Ana Moro-Egido, Overeducation and Wages in Europe: Evidence from Quantile Regression, University of Madeira and University of Granada, January 2007.

overall labor underutilization rate for the nation, and identify the incidence of underutilization problems among working-age adults in the U.S. in selected demographic, educational, and geographic subgroups.

Our analysis of the labor underutilization problems of adults also is based on the findings of the monthly CPS household surveys. Our analysis of the underutilized labor pool will be focused on the following three mutually exclusive groups: the unemployed, the underemployed,<sup>12</sup> and the members of the so-called labor force reserve or labor force overhang.<sup>13</sup> (Chart B). As noted earlier, the unemployed are those adults who were not working during the reference week of the CPS survey and were not temporarily absent from a job for such reasons as vacation, sick leave, or weather, but had been actively looking for work during the past four weeks and were available to take a job in the reference week. The labor force reserve consists of those individuals who reported to the Census Bureau's CPS interviewers that they wanted an immediate job at the time of the survey even though they were not actively looking for work.<sup>14</sup> A subset of the labor force reserve consists of members of the marginally attached to the labor force.<sup>15</sup> To be a member of this group, individual must have actively looked for a job in the past 12 months.<sup>16</sup> The underemployed are those persons who were working part-time (under 35 hours per week) during the reference week of the CPS survey but wished to be working full-time. They may have experienced reduced work hours due to slack demand for labor at their firm

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<sup>12</sup> The U.S. Bureau of Labor Statistics altered its definition of the "employed part-time for economic reasons" in its redesign of the CPS labor force questionnaire that was implemented in January 1994. The new questionnaire directly asked individuals working part-time (under 35 hours per week) whether they wanted to work full-time and the reasons why they were only working part-time. The newer, more rigorous questions resulted in a reduction (of about 28%) in 1994 in the number of persons classified as working part-time for economic reasons.

See: Anne E. Polivka and Jennifer M. Rothgeb, "Redesigning the CPS Questionnaire," Monthly Labor Review, September 1993, pp 10-21.

<sup>13</sup> The late economist Eli Ginzberg used the concept of a "labor force overhang" to describe this group of persons on the margins of the official labor force. We prefer the term labor force reserve to describe this group. They are frequently ignored in most calculations of labor force underutilization rates.

See: Eli Ginzberg, Good Jobs, Bad Jobs, No Jobs, Harvard University Press, Cambridge, Massachusetts, 1979.

<sup>14</sup> The labor force reserve is sometimes confused with the set of "discouraged workers", who are a small subset of the labor force reserve. The discouraged as defined by the BLS are those members of the labor force reserve who cite personal and economic discouragement reasons for not seeking work. Fewer than 1 in 10 members of the labor force reserve would meet the definition of being a discouraged worker.

<sup>15</sup> The U.S. Bureau of Labor Statistics frequently refers to the "marginally attached" and the "discouraged" in its analysis of labor force underutilization problems rather than the entire labor force reserve.

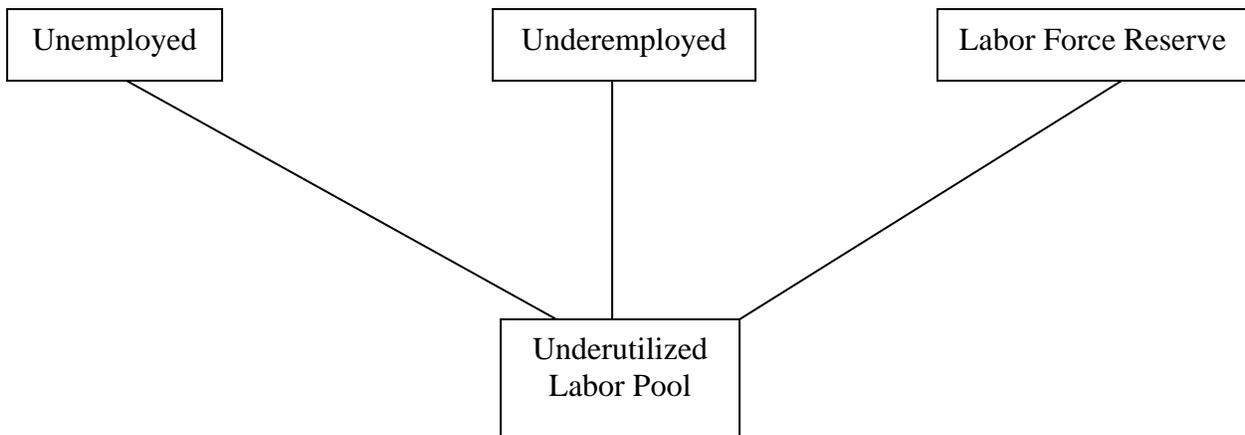
See: Sharon Cohany, "Ranks of Discouraged Workers and Others Marginally Attached to the Labor Force Rise During Recession," Issues in Labor Statistics, U.S. Bureau of Labor Statistics, April 2009.

<sup>16</sup> For a review of BLS alternative measures of labor underutilization,

See: U.S. Bureau of Labor Statistics, The Unemployment Rate and Beyond: Alternative Measures of Labor Underutilization, BLS web site, June 2008.

or simply been unable to find a full-time job. On average, they work only 22 to 23 hours per week, or only slightly more than half the weekly hours of the full time employed. Estimates of the size of each of these three groups of unutilized and underutilized adults will be combined to form a pool of unutilized and underutilized adults and then used to calculate a labor underutilization rate (See Chart 2). The value of this labor underutilization rate is obtained by dividing the combined pool of unutilized and underutilized workers by the size of the adjusted civilian labor force. The adjusted labor force consists of the civilian labor force plus the labor force reserve. We need to add in the members of the labor force reserve since they are excluded from the count of the official labor force (See Chart 2).

Chart 2:  
The Components of the Pool of Underutilized Labor



**Adjusted Civilian Labor Force = Civilian Labor Force + Labor Force Reserve**

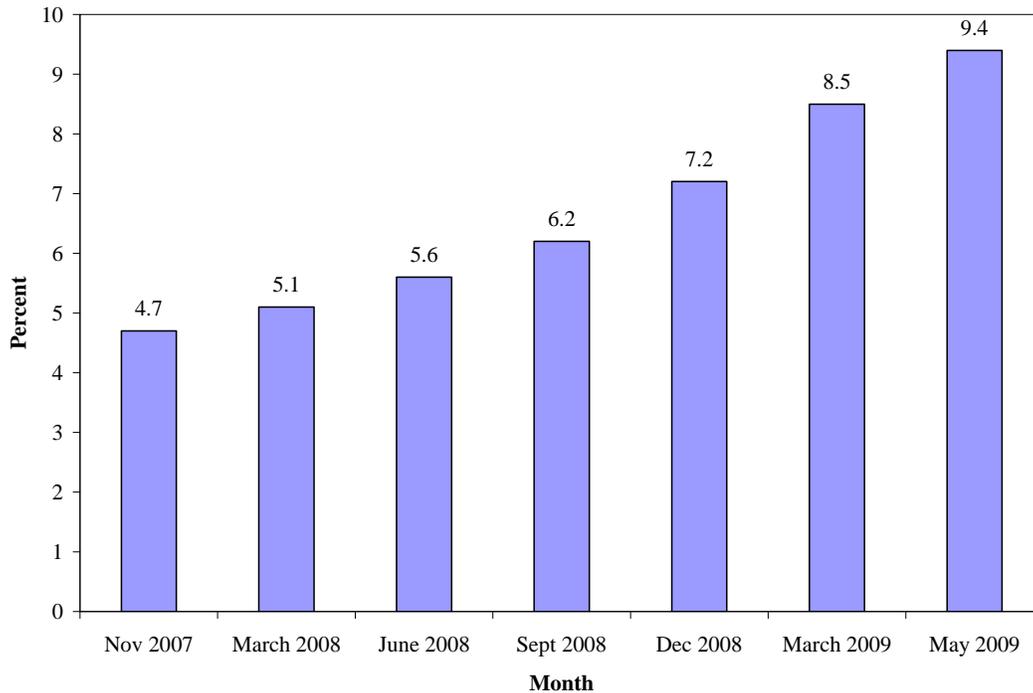
Underutilized Labor Pool = Underutilization Rate (in %)  
Adjusted Labor Force

**The Steep Rise in the Nation’s Unemployment Rate During the Current Recession**

According to the National Bureau of Economic Research, the official arbiter of business cycle dating in the U.S., the nation entered a recession in December 2007 and has remained in a recession since then. By the end of May 2009, the recession had lasted for 18 months, tying the

recession of 1981-82 for the longest lasting recession in the post-World War II era. Beginning in June, we are now establishing a record for the longest post-World War II recession. In the month immediately prior to the onset of the recession (November 2007), the nation's unemployment rate stood at only 4.7% (Chart 3). Over the next 18 months, the unemployment rate would rise steadily and steeply, accelerating from September 2008 onward. By March 2008, the unemployment rate had risen to only 5.1% but would go above 6.0% by September 2008. Over the next eight months, the unemployment rate would jump considerably, rising to 7.2% in December, to 8.5% by March 2009, and increasing to 9.4% by May 2009. In May, the unemployment rate was twice as high as that of November 2007. The 9.4% rate of unemployment was the highest in the past 26 years. In July-August 1983, the unemployment rate (seasonally adjusted) averaged 9.4-9.5%.

**Chart 3:**  
Trends in the National Monthly Unemployment Rate from  
November 2007 to May 2009, Selected Months  
 (Seasonally Adjusted, in %)



The substantial rise in the nation's unemployment rate during the 18 month period between November 2007 and May 2009 took place despite very limited growth in the number of

adults who were members of the official civilian labor force. Between November/December 2007 and April/May 2009, the national civilian labor force (seasonally adjusted) rose from only 153.856 million to 154.906 million, a gain of only 1.05 million or .7%. Over a similar 17 month average time period during the 1981-82 recession, the labor force rose by nearly 2.1 million or 1.9%. If the labor force had grown as strongly during the current recession as it had in the 1981-82 recession, and the number of employed had remained the same, the unemployment rate would have risen to 10.6% by May 2009, nearly equaling the 10.8% unemployment rate peak in November/December 1982, the highest ever reached since the end of World War II. Low labor force growth held down below previous U.S. Bureau of Labor Statistics projections by poor job prospects has kept the unemployment rate from reaching new post World War II highs thus far during the current national economic recession.

To place the substantial rise in the U.S. unemployment rate over the past 18 months in proper perspective, we compared the change in the unemployment rate over this 18 month period in the current recession with a similar 18 month period over the previous five recessions from 1973-75 to 2001.<sup>17</sup> It should be noted that with the exception of the 1973-75 and 1981-82 recessions, the current recession has lasted considerably longer than the other three recessions appearing in Table 1. Only one prior recession, that of November 1973 to March 1975 experienced an unemployment rate increase (+4.2 percentage points) comparable to that of the current recession over this 18 month period. The current recession which has not yet ended has seen an unemployment rate increase greater than that of any of the other ten post-World War II recessions in the U.S.

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<sup>17</sup> A separate analysis of unemployment rate changes over an 18 month period during the over five post-World War II recessions from 1948 to 1969-70 revealed that the 4.7 percentage point change during the current recession was greater than that of any of the other 10 recessions.

Table 1:  
Changes in the Unemployment Rates (Seasonally Adjusted) of  
U.S. Workers from the Month Prior to the Onset of the National Recession to  
18 Months Later, Recessions of 1973-75 to 2007-2009  
(in %)

Time Period	(A) Unemployment Rate in Month Prior to Recession	(B) Unemployment Rate 18 Months Later	(C) Percentage Point Change
October 1973 – April 1975	4.6	8.8	+4.2
December 1979 – June 1981	6.0	7.5	+1.5
May 1981 – November 1982	7.5	10.8	+3.3
May 1990 – November 1991	5.4	7.0	+1.6
February 2001 – August 2002	4.2	5.7	+1.5
November 2007 – May 2009	4.7	9.4	+4.7

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

### **How High Might the Nation’s Unemployment Rate Rise Before It Peaks?**

The national unemployment rate has risen considerably over the past 8 months, reaching 9.4% in May even though the recession has not yet formally come to an end. Recent economic forecasts by national forecasting firms and the Federal Reserve Bank indicate that the national recession will likely come to an official end in the fall of this year. We will not learn of the official end of the recession until early next winter when the National Bureau of Economic Research assigns an ending date to this recession. National unemployment levels and the overall unemployment rate will likely rise through the end of the year and well beyond, given both experiences during the economic recovery periods from the previous two national recessions (1990-91 and 2001) and the modest economic growth projections by most national economic forecasting firms for 2010.<sup>18</sup>

During the recoveries from the past two national economic recessions, the unemployment rate did not peak until 16 to 20 months after the official end of these recessions. The 1990-91 recession officially ended in March 1991 when the unemployment rate was 6.8%, but the unemployment rate did not peak until June-July of the following year when it averaged between

<sup>18</sup> According to findings presented in *The Economist* in April 11, 2009, the median growth rate projection for the nation’s GDP in calendar year 2010 was only 1.4%. By itself, this output growth rate would not be high enough to keep the unemployment rate from rising. It would not allow for any rise in payroll employment.

7.7 and 7.8 percent (Table 2). The national recession of 2001 officially ended in November 2001. The unemployment rate was only 5.5% at the trough of the recession, but it would rise through June-July of 2003, 19-20 months later, when it peaked at 6.2-6.3%. The early economic growth periods following the end of the 1990-91 and 2001 recessions were accompanied by lengthy “jobless recoveries” in the labor market.

Table 2:  
The Timing of the Peak of the Nation’s Unemployment Rate  
After the Official End of the Recessions of 1990-91 and 2001

	(A)	(B)	(C)	(D)
Recession	Official Ending Data of Recession	Unemployment Rate at End of Recession	Peak Two Month Average Unemployment Rate	Timing of Peak Unemployment Rate After End of Recession (in Months)
1990-91	March 1991	6.8%	7.7-7.8%	15-16
2001	November 2001	5.5%	(June – July 1992) 6.2-6.3% (June – July 2003)	Months Later 19 – 20 Months Later

Clearly, the national unemployment rate has not yet peaked given the fact that the recession has not yet come to an end and a period of jobless recovery will likely follow the official end of the recession. The overall unemployment rate could easily reach 10% by the end of the summer. Labor productivity growth and a lengthening of the work week for employees could easily meet most recent projections of national output growth over the first year following the end of the recession. If the national labor force resumes its projected annual growth rate of .7 to .8 percent, the national unemployment rate by the end of calendar year 2010 could well be in the 11% range unless economic growth rises well beyond most current projections or the Obama Administration and the U.S. Congress undertake a new job creation program.<sup>19</sup>

<sup>19</sup> The Federal Reserve Bank Governors and Reserve Bank Presidents have recently projected an economic growth rate of between 2% and 3% for 2010. A 3% output rate of growth could raise payroll job growth by nearly 1 percent about in line with labor force growth, leaving the overall unemployment rate unchanged. The Federal Reserve projections are far more positive than most leading national economic forecasts.  
See: Federal Reserve Bank, Federal Open Market Committee, “Summary of Economic Projections,” April 2008.

## **The Rise in Labor Underutilization Problems in the U.S. During the Current Course of the National Economic Recession**

The current recession in the U.S. has had a wide array of adverse consequences for U.S. workers that extend well beyond the official unemployment statistics. A substantially larger number of U.S. workers have either seen their weekly hours of work reduced well below the minimum BLS threshold of full-time employment (35 or more hours) or been unable to secure full-time jobs when they sought work, accepting part-time jobs to obtain some earnings. As aggregate job opportunities have declined sharply over the past 18 months, a larger number of potential workers have joined the ranks of the national labor force reserve; i.e., wanting jobs but not actively looking for work and thereby not included in the ranks of the officially unemployed. To identify the size and characteristics of the ranks of these underutilized (underemployed) and unutilized workers (unemployed and labor force reserve) over the past 18 months, we analyzed the findings of the CPS household surveys for November 2007 and May 2009. Estimates of the number of unemployed and underemployed workers and the labor force reserve in these two months are displayed in Table 3 and Chart 4, together with estimates of the overall labor underutilization rates in these two months.<sup>20</sup>

During November 2007, there were 6.917 million unemployed workers, another 4.374 million underemployed workers and 4.337 million members of the labor force reserve, yielding a combined pool of 15.628 million underutilized workers, representing an underutilization rate of just under ten percent (Table 3). Over the November 2007 – May 2009 period, there was a massive increase in the pool of underemployed workers. The number of unemployed workers more than doubled from 6.917 million to 13.973 million the number of underemployed also doubled from 4.374 million to 8.785 million, and the labor force reserve increased sharply from 4.337 million to 6.612 million, a gain of 52% over this 18 month period (Table 3 and Chart 4).

By May 2009, the total number of underutilized workers had increased dramatically from 15.63 million to 29.37 million, a rise of 13.7 million or 88%. Nearly 30 million working-age individuals were underutilized in May 2009 the largest number in our nation's history. The

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<sup>20</sup> As noted in the footnote to Table 2, all of these labor underutilization estimates are not seasonally adjusted. The U.S. Bureau of Labor Statistics does estimate the number of unemployed and underemployed on a seasonally adjusted basis but not the labor force reserve. We find the rate of underutilization to be best measured on a seasonally unadjusted basis.

overall labor underutilization rate in May 2009 had risen to 18.2%, its highest value in the past 26 years.

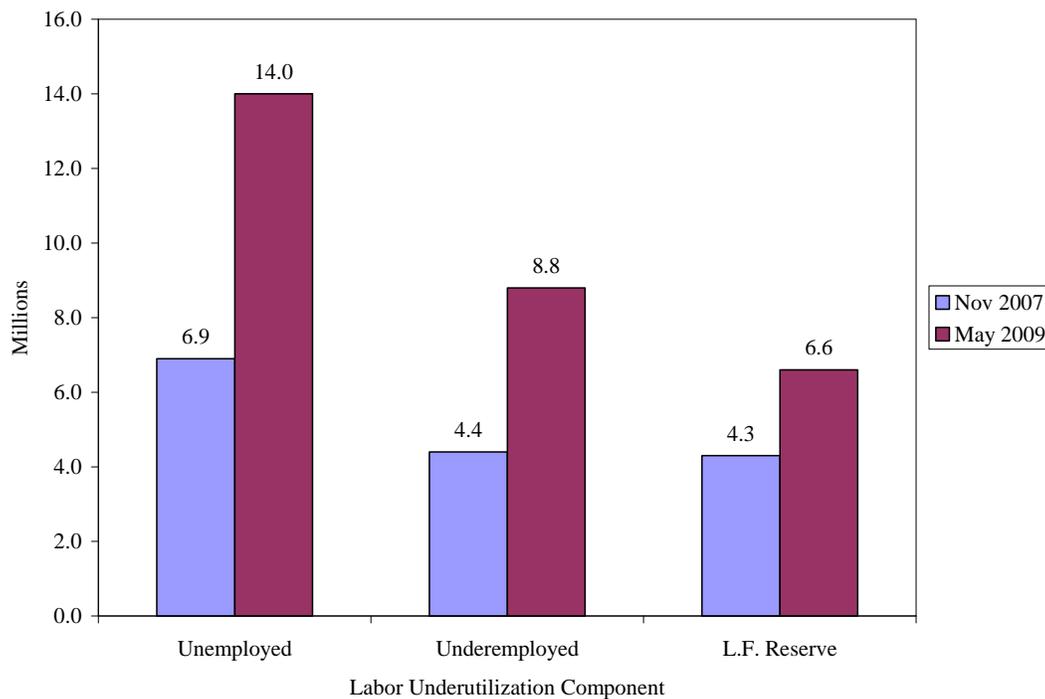
**Table 3:**  
The Civilian Labor Force, the Pool of Underutilized Workers, and the Underutilization Rate of the U.S., November 2007 and May 2009

	(A)	(B)	(C)	(D)
	November 2007	May 2009	Change from Nov 2007 to May 2009	Percent Change
Civilian Labor Force	154.035	154.336	+ .301	+ .2%
Unemployed	6.917	13.973	+7.056	+ 102%
Underemployed	4.374	8.785	+4.411	+ 101%
Labor Force Reserve	4.337	6.612	+2.275	+ 52%
Total Underutilized Labor Pool	15.628	29.370	+13.742	+ 88%
Adjusted Civilian Labor Force	158.372	160.948	+2.576	+ 1.6%
Underutilization rate (in %)	9.9%	18.2%	+8.3 (% pts.)	+ 84%

<sup>1</sup>Not seasonally adjusted, numbers in millions.

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

**Chart 4:**  
Comparisons of the Size of the Underutilization Labor Pool in the U.S. by Component, November 2007 and May 2009  
 (in Millions)



Each of these labor underutilization problems has adverse impacts on the current and future levels of the nation's Gross Domestic Product (GDP) and the earnings and incomes of American workers. The unemployed, the vast majority of whom (88%) were seeking full-time work in recent months, reduce the volume of workers actively engaged in the production process today, and the trend toward rising long-term unemployment (27 weeks or longer) will likely lead to withdrawals from the active labor force in the future. The underemployed, on average, worked only 23.1 hours per week in May 2009 versus a mean weekly hours of work of 40.2 among the full-time employed. These sharply reduced mean weekly hours of work combined with the substantial rise in the number of underemployed workers over the course of the recession has lowered labor input considerably (nearly 90 million hours per week in May 2009) and reduced aggregate output considerably below its full employment trend. Lower work hours today also reduces the cumulative work experience of the employed, thereby diminishing their future earnings. Past econometric evidence has shown that part-time work has much lower returns than full-time work experience on future weekly earnings.<sup>21</sup> Members of the growing labor force reserve do not add anything to current production, and their loss of work experience and on-the-job training opportunities will diminish their future productivity and their earnings. Lower future weekly wages will in turn reduce the likelihood of future labor supply by some members of the labor force reserve.

To place the very sharp rise in the incidence of labor underutilization problems over the first 18 months of the recession into proper comparative perspective, we compared the increase in the rate of labor underutilization from the month prior to the beginning of the recession to 18 months later for each of the past six national recessions, beginning with the 1973-75 recession. The same definition of the underutilization rate was used for each of the six time periods being analyzed, but the estimated monthly number of underutilized in the time periods prior to the

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<sup>21</sup> For evidence on the economic advantages of full-time employment, See: (i) Andrew Sum, Neeta Fogg, and Garth Mangum, Confronting the Youth Demographic Challenge: The Labor Market Prospects of Out-of-School Young Adults, Sar Levitan Center for Social Policy Studies, Johns Hopkins University, Baltimore, 2000; (ii) Thomas Hungerford, "Full-Time and Part-Time Work Among Young Women," Paper Presented to The Annual Conference of the Association for Public Policy Analysis and Management, Pittsburgh, November 1996.

2001 recession were reduced by 20 percent due to changes in the CPS questionnaire in 1994 that affected the estimates of the underemployed.<sup>22</sup>

During the current recession, the nation’s overall labor underutilization rate rose by 8.3 percentage points to 18.2%. This underutilization rate was higher than that of any other recession except the 1981-82 recession when the underutilization rate hit close to 20% at the peak of the recession (Table 4). However, the increase in the national labor underutilization rate over the 18 month period for the current recession has exceeded that of any of the previous five recessions. The rise in the labor underutilization rate for a similar 18 month period during the 1973-75 recession was second largest but only increased by 5.8 percentage points. The rise in the labor underutilization rate in the current recession is already four times higher than that of the 2001 recession which ended in November of that year.

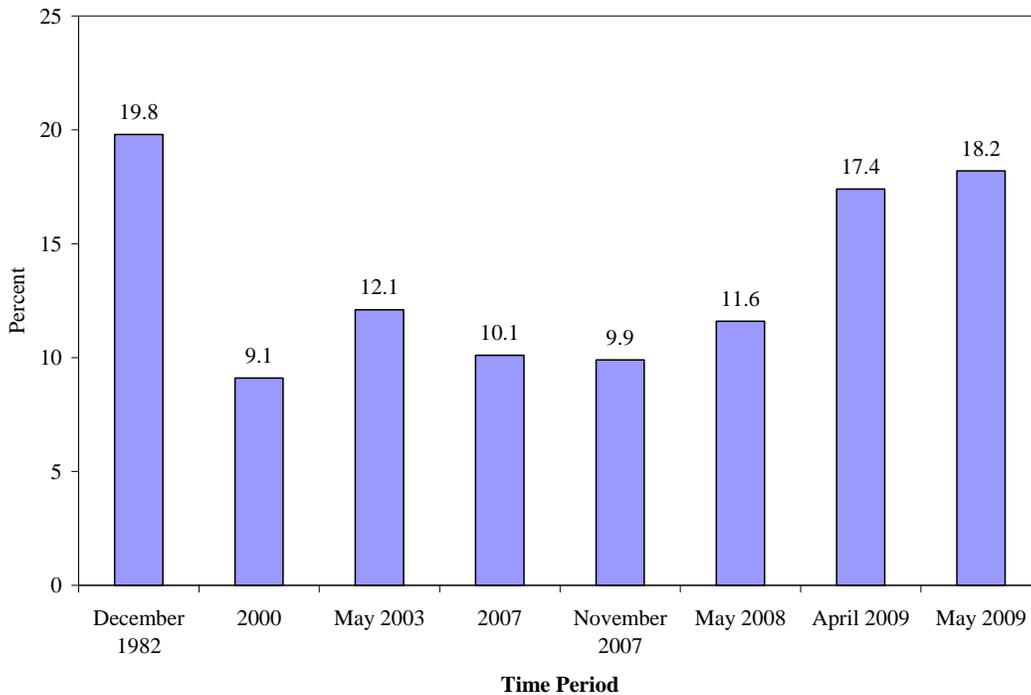
Table 4:  
Changes in Labor Underutilization Rates of U.S. Workers from the Month Prior to the Official Onset of the Recession to 18 Months Later, Recessions of 1973-75 to 2007-09

Time Period	(A) Underutilization Rate in Beginning Month	(B) Underutilization Rate 18 Months Later	(C) Percentage Point Change
October 1973 – April 1975 <sup>1</sup>	10.7%	16.5%	+5.8 percentage points
December 1979 – June 1981 <sup>1</sup>	12.9%	15.8%	+2.9 percentage points
May 1981 – November 1982 <sup>1</sup>	14.8%	19.8%	+5.0 percentage points
May 1990 – November 1991 <sup>1</sup>	12.2%	15.4%	+3.2 percentage points
February 2001 – August 2002	9.9%	11.9%	+2.0 percentage points
November 2007 – May 2009	9.9%	18.2%	+8.3 percentage points

<sup>22</sup> A new CPS questionnaire was introduced in the field by the U.S. Census Bureau in January 1994. Questions on job desires of non-participants were asked on a monthly basis and they were asked about their job seeking behavior in the prior 52 weeks. The survey also asked direct questions on their desires for part-time or full-time employment. See: Anne E. Polivka and Jennifer Rothgeb, “Redesigning the CPS Questionnaire,” Monthly Labor Review, October 1993, pp. 10-28.

The labor underutilization rate of the nation following the end of the 2001 recession actually continued to rise through early 2003, ranging from 12.1% to 12.7% from January to May 2003 (Chart 3). Given the fact that the current recession is still underway, the labor underutilization rate will likely continue to rise for at least another year or more, possibly rising to a new record high in 2010. It will take a year or two of strong economic growth to produce any downward drift in the underutilization rate.

Chart 6:  
Trends in Labor Underutilization Rates for the U.S., Selected Time Periods,  
December 1982 to May 2009  
 (in %)



It should be noted that our measures of labor underutilization exclude the so-called “mal-employed”, i.e., those individuals who are employed full-time but are holding jobs that do not fully utilize their occupational skills or formal education. In a study last year by the authors of this report, we estimated that nearly 28% of all employed bachelor degree holders between the ages of 21-29 years in the U.S. were mal-employed, working in jobs that typically did not require

a college degree.<sup>23</sup> Their weekly earnings on these jobs were 27% lower than those of their peers in the same age/educational attainment group who held bachelor degrees. There are both large personal and social costs associated with mal-employment among college graduates, including lower annual earnings, lower real output, a reduction in labor productivity, and displacement of less educated workers from jobs in the labor market. The reduced real earnings of college graduates also lower the private and social returns to investments in a college education. Problems of mal-employment among the nation's newest college graduates appear to be quite severe this year, with growing media stories on the difficulties of recent college graduates in landing any type of employment.<sup>24</sup>

### **Labor Underutilization Rates Across Demographic, Educational Attainment, and Geographic Groups of Workers in the U.S. in 2009**

Knowledge of the varying impacts of the 2007-2009 recession on labor underutilization problems among groups of workers in the U.S. in selected demographic and socioeconomic groups and geographic areas would be helpful for public policymaking to help alleviate the adverse consequences of these developments and to prepare them for new job opportunities as the economy eventually begins to recover from the recession. In Charts 7 to 9, we display estimates of the labor underutilization rates in April 2009 of U.S. workers in gender, race-ethnic, age, and educational attainment groups. In Charts 10 and 11, we provide estimates of the labor underutilization rates of workers in selected individual states in January-April 2009 and the changes in those labor underutilization rates between the first four months of calendar years 2008 and 2009.

Estimates of the underutilization rates of U.S. working-age adults (16+) in gender and race-ethnic groups are displayed in Chart 7. Job losses among U.S. workers over the course of the current recession have varied markedly by gender and race-ethnic group. Males have experienced considerably greater job losses than women, and young adults (under 30) have borne the brunt of the employment losses while employment among older adults (55+) has actually increased, and Black males have fared the worst.

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<sup>23</sup> See: Andrew Sum, Ishwar Khatiwada with Joseph McLaughlin and Sheila Palma, [Beyond Official Unemployment...](#)

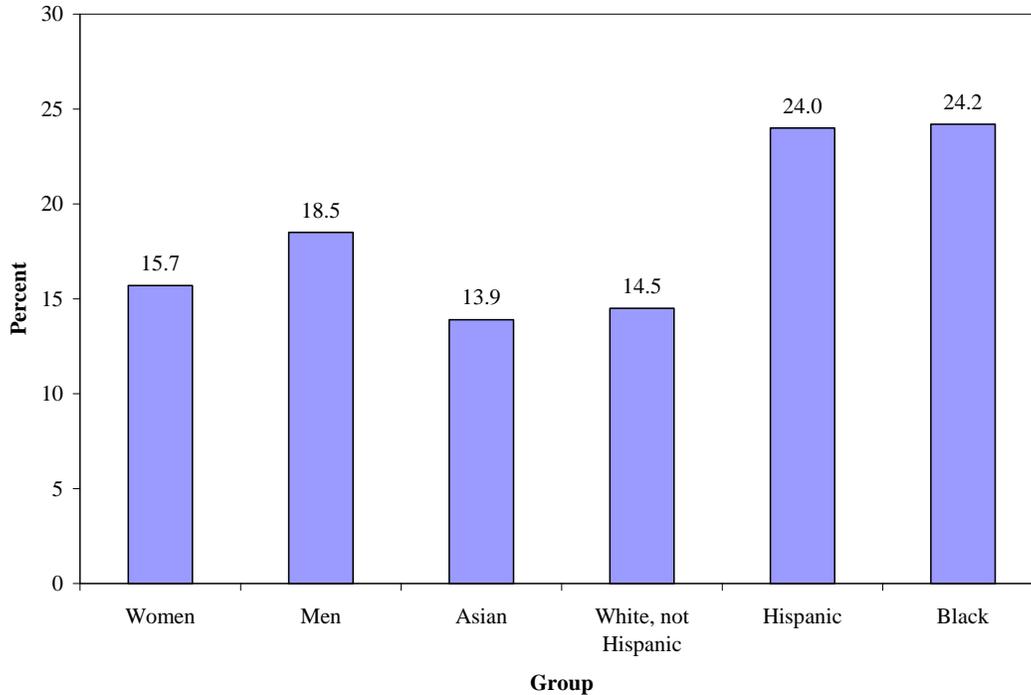
<sup>24</sup> See: "Tough Job Market for College Grads," CBS News, [www.cbsnews.com](http://www.cbsnews.com), June 11, 2009.

The underutilization rates of U.S. workers across gender and major race-ethnic groups are displayed in Chart 7. Males, especially those without four year college degrees and those under 30, have been particularly hard hit by the deterioration in national labor markets during the course of the recession. Nearly 80% of the net employment losses from November 2007 – April 2009 were incurred by men.<sup>25</sup> The unemployment rate of males in April 2009 was 10% versus only 7.2% for women, the largest absolute and relative gender gap in unemployment rates in the post-World War II period. Due largely to their above average unemployment rate, males experienced an underutilization rate of 18.5% in April 2009, nearly three percentage points higher than that of women (Chart 7). During April 2009, unemployment rates among Hispanics (11.1%) and Blacks (14.3%) were in the double digits, and both groups also experienced a high incidence of underemployment problems. Nearly 11% of employed Hispanic workers, including many immigrants, reported that they were working part-time for economic reasons in April 2009. As a consequence of their high unemployment and underemployment problems, Hispanics (24.0%) and Blacks (24.2%) faced the highest incidence of underutilization rates in April, nearly 10 percentage points higher than those of White, non-Hispanics and slightly more than 10 percentage points higher than those of Asians.

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<sup>25</sup> See: Andrew Sum, Ishwar Khatiwada, Joseph McLaughlin with Shaun O’Brien and Sheila Palma, The Impacts of the 2007-2009 National Recession on Male Employment in the U.S. through March 2009: The Massive Concentrations of Job Losses Among Males Especially Black Men and Blue Collar Workers, Center for Labor Market Studies, Northeastern University, Boston, May 2009.

Chart 7:  
Labor Underutilization Rates of U.S. Working Age Adults by  
Gender and Race-Ethnic Group in the U.S., April 2009  
(in %)

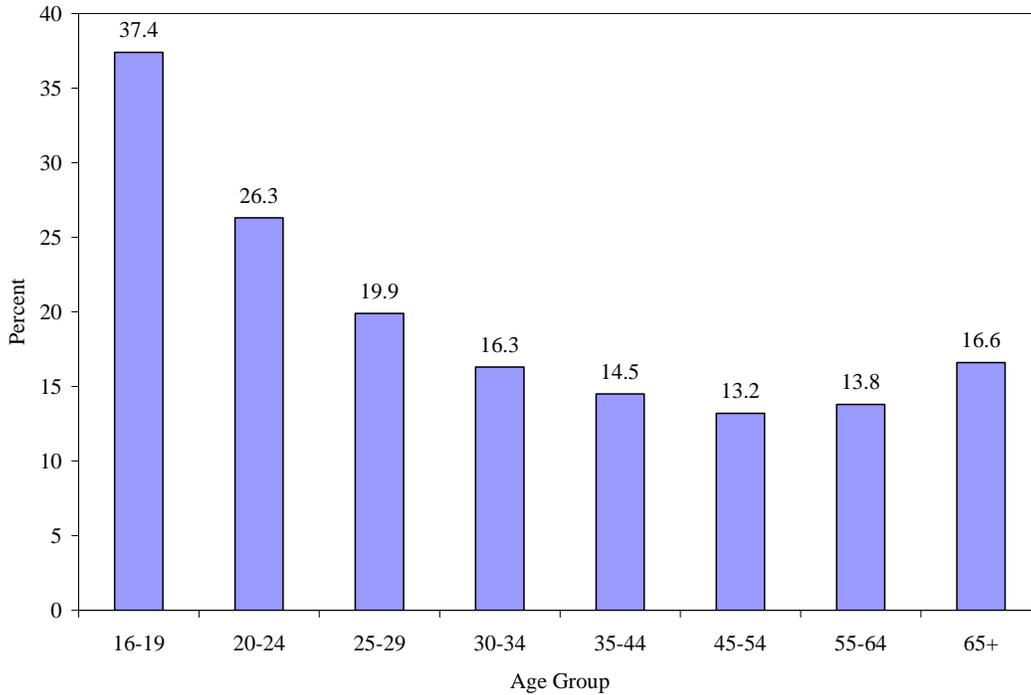


The labor underutilization rates of workers in April 2009 also varied markedly by age group, reflecting large age disparities in the distribution of employment losses by age group over the course of the recession. Younger workers (under age 30) have borne nearly one half of the net employment losses since November 2007 while employment of persons 55 and older has increased.<sup>26</sup> Underutilization rates were highest among teenagers (37.4%) and 20-24 year olds (26.3%) and declined steadily with age through the 45-54 age group where the underutilization rate bottomed out at 13.2%. The incidence of underutilization problems rose modestly to 13.8% for persons 55-64 and then more steeply to 16.6% for those 65 and older. Among the elderly, labor underutilization problems remain highest among males and the less well educated.

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<sup>26</sup> For a review of the deteriorating labor market fortunes of teens and young adults since 2000, See: Andrew Sum and Joseph McLaughlin with Sheila Palma, In With the Old and Out With the Young: The Age Twist in Employment Rates from 2000-2008, Center for Labor Market Studies, Northeastern University, February 2009.

**Chart 8:**  
**Labor Underutilization Rates of U.S. Working-Age Adults by Age Group, April 2009**  
 (in %)

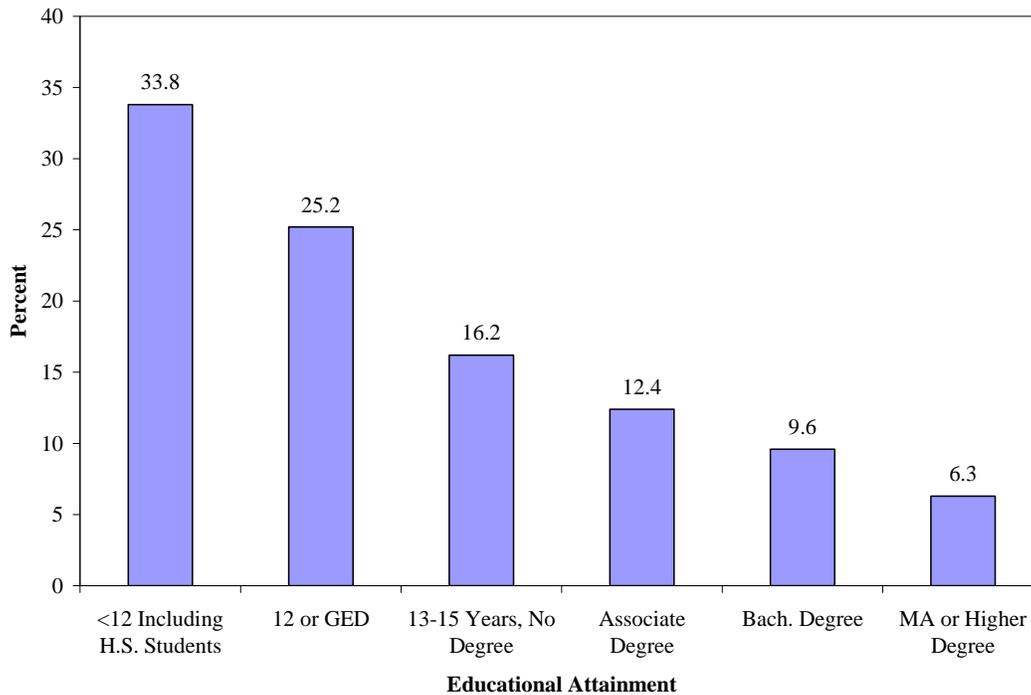


The incidence of labor underutilization problems also varied substantially across educational groups, declining steadily and sharply with years of schooling completed. Those working-age adults who lacked a high school diploma/GED faced the highest unemployment, underemployment, and labor force reserve problems in April 2009. Their open unemployment rate was 17.6%, more than 12% of the employed lacking a high school diploma, were working part-time for economic reasons, and the labor force reserve was close to 10% of the active civilian labor force in this educational group.<sup>27</sup> The overall incidence of labor underutilization problems among adults with no high school diploma/GED certificate was nearly 34% (Chart 9). Slightly over one-fourth of adult high school graduates with no completed years of post-secondary schooling were underutilized versus only 12% of those with an associate’s degree, slightly under 10% of bachelor degree holders, and only 6% of those with a Master’s or higher degree. The least well educated group of adults faced an underutilization rate that was between five and six times as high as that of those adults with a Master’s or higher degree (34% vs. 6%).

<sup>27</sup> Teenaged high school students will be included in the ranks of those with no high school diploma.

The strong links between labor underutilization and educational attainment prevailed among both men and women.

Chart 9:  
Labor Underutilization Rates of U.S. Working Age Adults by Educational Group, April 2009  
(in %)



The recession of 2007-2009 has taken a toll on workers in all major geographic regions of the country, in all states, and in nearly all metropolitan areas. Unemployment rates and underutilization rates in the January-April period of this year did, however, vary widely across the 50 states and the District of Columbia. Over the first four months of this year, state unemployment rates ranged from lows of 4.5% to 5.5% in Nebraska, North Dakota, South Dakota, and Wyoming to highs of 11 to 13 percent in California, Michigan, Oregon, and Tennessee. Underutilization rates in the January-April period of this year also varied widely across the states, ranging from lows of 10 to 12 percent in the bottom five ranked states (including North Dakota, Nebraska, and Wyoming) to highs of 21 to 24 percent in the top five ranked states, including Oregon, Michigan, and California (See Table 5). The simple average underutilization rate in the five bottom ranked states was only 10.9% versus an average of 22.4% in the top five states. In these top five states, between 1 in 4 and 1 in 5 workers were underutilized in the winter and early spring of 2009. The relative difference in labor

underutilization rates between the top and bottom five states was slightly more than two to one, an extraordinarily large difference.

Table 5:  
Labor Underutilization Rates of U.S. Adults in the Top Five and  
Lowest Five States, January to April 2009  
(in %)

Top Five	Underutilization Rate	Bottom Five	Underutilization Rate
Oregon	23.9	North Dakota	9.9
Michigan	22.9	Nebraska	10.5
California	22.4	Wyoming	11.1
Tennessee	21.6	Louisiana	11.2
South Carolina	21.2	Oklahoma	11.9
Average	22.4	Average	10.9

Nationally, the average monthly underutilization rate between the first four months of 2008 and 2009 increased sharply from 11.1% to 17.5%, a rise of 6.4 percentage points. The rise in underutilization rates across the states varied quite widely. In the eleven states with the greatest increases in the incidence of labor underutilization problem, the underutilization rates rose from 7.7 to 11.3 percentage points. These extraordinary increases in labor underutilization rates were generated by steep combined rises in unemployment, underemployment, and hidden unemployment (labor reserve) problems.

Table 6:  
The Eleven States With the Largest Percentage Point Increases in their  
Labor Underutilization Rates from January-April 2008 to January-April 2009  
(in Percentage Points)

State	Underutilization Rate Increase
Ohio	7.7
Rhode Island	7.7
North Carolina	8.0
Alabama	8.2
Nevada	8.4
Arizona	8.7
Tennessee	8.9
California	8.9
South Carolina	9.5
Hawaii	10.5
Oregon	11.3

### **Summary of Key Findings and their Labor Market/Workforce Development Policy Implications**

The continuation and deepening of the national economic recession of 2007-2009 have taken a steep toll on American workers over the past eight months. The dramatic decline in overall payroll job opportunities has sharply driven up the official national unemployment rate, pushed a very large number of workers into part-time jobs, increased mal-employment problems especially among young college graduates, and reduced the number of individuals who were expected to be active participants in the labor force. A brief summary of key research findings in the paper and their implications for future workforce development policymaking and program planning at the national and state level are presented below.

First, the national unemployment rate has increased at an extraordinarily rapid pace since the beginning of the recession. Between November 2007, the month immediately prior to the official onset of the recession, and May 2009, the overall unemployment rate doubled, rising from 4.7% to 9.4%. The percentage point increase in the unemployment rate over this 18 month period was larger than that over a similar 18 month period in any of the previous ten recessions since the end of World War II.

Two, the changing character of unemployment also will pose serious barriers to labor market improvements in the early stages of recovery from the current recession. A very high share (75%) of the rise in total unemployment between May 2008 and May 2009 was attributable to permanent job losses rather than to temporary layoffs or new entrants/re-entrants into the labor force. A high fraction of these permanently displaced workers were formerly employed in industries (construction, manufacturing, transportation, finance) and occupations that are now in substantial surplus in U.S. labor markets. Many of these newly jobless workers are structurally unemployed, lacking the education and occupational skills to become re-employed in the absence of new initiatives to retrain them for jobs that are expected to be created as the economy begins to recover. Job creation programs funded under the American Recovery and Reinvestment Act of 2009 should be targeted upon industries/occupations that have been most adversely impacted by the current recession and a portion of ARRA monies should be set aside in each local area to provide training for the unemployed to enable them to gain access to the jobs that will be created under the stimulus.

Third, labor underutilization problems have increased well beyond those of official unemployment over the past 18 months. Between November 2007 and April 2009, the total number of underutilized workers in the U.S. (excluding the mal-employed) rose dramatically from 15.6 million to just under 30 million by April 2009, a post-World War II high. The overall labor underutilization rate rose from 9.9% in November 2007 to 18.2% in April 2009, an increase of 8.3 percentage points. The magnitude of the percentage point increase in the underutilization rate over this 18 month period was larger than that of any of the previous five national recessions for which comparable labor underutilization rates could be calculated. Given the fact that the national recession is still underway and that declines in both unemployment and labor underutilization lagged well behind improvements in real aggregate output in the recovery from the last two recessions, we expect the underutilization rate to rise at least through the end of calendar year 2010, possibly exceeding the 19.8% underutilization rate reached at the height of the national recession of 1981-82.

Fourth, while labor underutilization rates have risen among all major demographic, educational, and geographic subgroups of workers during the current recession, the labor underutilization rates of workers today vary quite widely across age, educational attainment, and geographic areas. Males faced about a three percentage points higher underutilization rate than

women in April 2009, due primarily to the much higher unemployment rate faced by men, especially younger males (under 30) and those without four year college degrees. Black and Hispanic workers faced underutilization rates considerably higher than those of Asians and Whites. Nearly 1 of every 4 Black and Hispanic workers was underutilized in April 2009. Underutilization rates also varied to an extraordinarily wide degree across educational attainment groups. Over one-third of those working-age persons without a regular high school diploma/GED certificate were underutilized versus 24% of those with a regular high school diploma, slightly under 10% of those with a Bachelor's degree, and only 6% of those with a Master's or higher degree. Underutilization rates also varied widely across the 50 states during the first four months of 2009. Nine states faced underutilization rates of 20 percent or high during this time period, and the five states with the highest underutilization rates faced an average incidence of such problems twice as high as those of the bottom five ranked states.<sup>28</sup>

Five, the U.S. Congress and the Obama Administration have enacted a series of fiscal policies, spearheaded by the American Recovery and Reinvestment Act of 2009, including infrastructure investments, green technology investments, and youth job creation programs under the Workforce Investment Act, to stimulate output and employment in the short run. Yet, the use of programs to create jobs directly in the public and non-profit sectors and to subsidize job creation in the private for profit sector has not been given much of a role by the U.S. Congress or the Obama Administration. There is a clear need for job creation programs even in moderately good times in the labor market.<sup>29</sup> Public sector job programs can create jobs for youth and adults at a lower net cost per job than any of the alternative strategies being employed with the exception of the small scale (\$1.2 billion) funding of job creation programs for 16-24 year olds under WIA.

Six, the provision of short-term stimulus funds to create summer and year-round jobs for economically disadvantaged teens and young adults is a desirable first step to address the

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<sup>28</sup> At no time in the past 39 years for which labor underutilization rates can be calculated did U.S. workers ever face an underutilization rate of 20%.

<sup>29</sup> For earlier reviews of the case for job creation programs for adults and teenagers in the U.S. and the experiences with job creation programs in the 1970s and 1980s, See: (i) Timothy Bartik, "Why We Need to Subsidize Jobs," *Challenge*, May/June 2002, pp. 100-111; (ii) Robert F. Cook, Charles F. Adams, V. Lane Rawlins, *Public Service Employment: The Experience of A Decade*, W.E. Upjohn Institute for Employment Research, Kalamazoo, 1985; (iii) Andrew Sum, Garth Mangum and Robert Taggart, "The Case for A Young Adult Jobs Creation Programs," *Indicators: The Journal of Social Health*, Winter 2002-03, pp. 50-84.

economic depression in teen and young adult labor markets in recent years. The employment rates of the nation's teens (16-19 year olds) and young adults, especially males, were at post-World War II lows in recent months, and both underemployment and mal-employment problems were growing as well. The nation's youth need both year-round as well as summer job creation problems, and eligibility for participation needs to be broadened well beyond the low income limits prevailing under the current WIA legislation. The federal government should also encourage the use of WIA youth monies to subsidize job creation in the for profit sector for teens and young adults and to allow local WIB agencies to hire more full-time staff to develop unsubsidized jobs and internships for high school students during both the regular school year and the summer.<sup>30</sup>

Finally, there is a clear need for both the federal government and state government to again experiment with the use of employer tax credits, such as those administered under the New Jobs Tax Credit program of the late 1970s, to increase the hiring of new workers as the national economic recovery gets underway.<sup>31</sup> The wage subsidies provided to employers should be based on marginal tax credits only applying to net new hires over and above the previous year's employment level and should be based on the first \$15,000 to \$20,000 in annual earnings to give a greater incentive to employers for hiring younger, less educated, and less experienced workers who are currently facing the highest labor underutilization rates in the country.

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<sup>30</sup> The Connecting Activities Program funded by the state of Massachusetts is a prime example of such a program for student internships,  
See: Jennifer Leonard and Richard Westrich, Connecting Activities: Making the Work Place a Learning Place, Malden, Massachusetts, March 2008.

<sup>31</sup> For a review of key features of the New Jobs Tax Credit and its estimated impacts on net new hires,  
See: Lawrence Katz, "Wage Subsidies for the Disadvantaged," in Generating Jobs: How to Increase Demand for Less Skilled Workers, (Editors: Richard Freeman and Peter Gottschalk), Russell Sage Foundation, New York, 1998.