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Labor Underutilization Problems of U.S. Workers Across Household Income Groups at the End of the Great Recession: A Truly Great Depression Among the Nation's Low Income Workers Amidst Full Employment Among the Most Affluent

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Introduction

Since the onset of the Great Recession of 2007-2009, labor market conditions have deteriorated dramatically for U.S. workers in the aggregate. The basic core facts are generally well known. The number of employed civilians (16+) in December 2009 was more than 9 million below its estimated level in November 2007, the month before the recession got underway. Total unemployment has more than doubled over the past two years, with double digit unemployment rates prevailing between October and December. At the same time, the number of underemployed; i.e., those persons working part time for economic reasons, has also more than doubled, reaching a new record high of 6.4% of all of the employed in the fourth quarter of 2009.[1] In addition, the nation's civilian labor force has actually shrunk by nearly one million over the past year rather than rising by 1.5 million as earlier projected by the U.S. Bureau of Labor Statistics.[2]

What has been missing from the public debate over the labor market crisis is an honest and detailed analysis of which American workers have been most adversely affected by the deep deterioration in labor markets. Earlier work by the authors has shown that a disproportionate share of the losses in jobs and the increases in open unemployment were borne by males, the young (under 30, especially teenagers), the less well educated, blue collar workers especially those in the construction trades, and Black men.[3] Four year college graduates, professional workers, many managers, and government employees were well protected from job losses. Our recent analysis of the rapidly rising numbers of underemployed workers in the U.S. showed both

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[1] See: Andrew Sum, Ishwar Khatiwada, and Sheila Palma, Underemployment Problems Among U.S. Workers in the Great Recession of 2007-2009: Rising Numbers and Their Disproportionate Impacts Upon the Young, Blue Collar Workers, Less Educated, and Lower Income Workers, Center for Labor Market Studies, Northeastern University, 2010.

[2] The seasonally adjusted civilian labor force in January 2010 was nearly one million below it's level in January 2009.
See: U.S. Bureau of Labor Statistics, The Employment Situation: January 2010, Released February 5, 2010.

[3] For earlier reviews of the impacts of the Great Recession on the labor market fate of different groups of workers, See: (i) Andrew Sum, Ishwar Khatiwada, Joseph McLaughlin, The Labor Market Impacts of the Great Recession of 2007-2009: It Is A Man's, Man's, Man's Recession, CLMS Project: The Great Recession of 2007-2009, Center for Labor Market Studies, Northeastern University, Boston, Massachusetts, July 2009; (ii) Andrew Sum, Ishwar Khatiwada, and Allison Beard, The Great Recession of 2007-2009: Its Post-World War II Record Impacts on Rising Unemployment and Underutilization, Center for Labor Market Studies, Northeastern University, June 2009; (iii) Andrew Sum, Paul Harrington, Ishwar Khatiwada, Misha Trubskyy and Sheila Palma, The Deep Depression in Blue Collar Labor Markets in the U.S., Center for Labor Market Studies, Northeastern University, Boston, December 2009; (iv) Andrew Sum, Joseph McLaughlin and Sheila Palma, The Current Depression in Teen Labor Markets and the Summer 2009 Teen Job Outlook, Center for Labor Market Studies, Northeastern University, Report Prepared for the Mott Foundation.

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men and women affected to a similar degree but again young workers, less educated workers, especially Black and Hispanic high school dropouts, and blue collar and many service workers were the most adversely affected by the downsizing of the full-time work force. The costs of underemployment are frequently quite severe in both lost hours of work and lower hourly wages, and sharply reduced weekly earnings.

Our previous research findings on the sharply higher incidence of underemployment problems among less educated workers, especially Black and Hispanic workers with no post-secondary schooling, those in many lower skilled occupations, and those in lower wage clearly suggest that underemployment in recent months has tended to be more highly concentrated among workers from lower income households. To more rigorously assess the incidence of underemployment problems among workers in different household income groups, we combined the findings of the March 2009 CPS work experience and income supplement on the household income distribution with the findings of the October-December 2009 monthly CPS surveys on the distribution of the underemployed by their position in the household income distribution (classified by deciles).

We ranked the household incomes of all households in the U.S. in 2008 in ascending order and calculated the cutoff points for each decile (ten percent) of the income distribution (See Appendix A). The bottom decile included all households with annual incomes at or below $12,160 while the top decile was comprised of all households with pre-tax, annual incomes above $138,800.

We then assigned each employed person in the October-December 2009 period into the 2008 household income decile that came closest to matching their reported household income on the 2009 CPS interview.[4] Findings of our estimates of the percent of the employed in each household income decile that faced underemployment problems in the October-December period of 2009 are displayed in Table 1.[5]

[4] Among both high school dropouts and high school graduates with no completed years of post-secondary schooling, the incidence of underemployment problems was considerably greater among Blacks and Hispanics than among Asians or White, non-Hispanics in the fourth quarter of calendar year 2009. Race-ethnic gaps in underemployment were especially large among high school dropouts and graduates with no post-secondary schooling.

[5] It should be noted that the employed are not distributed proportionately across the ten household income deciles. There are a below average number of employed in the bottom two deciles and an above average number in the higher deciles, especially the eighth and ninth deciles.

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Table 1:
Incidence of Underemployment Problems Among the Employed (16+) by
Decile of the Household Income Distribution in the October/December Period of 2009
(in %)

Income Decile	Incidence of Underemployment
Lowest	20.6
Second	17.2
Third	12.7
Fourth	8.3
Fifth	6.1
Sixth	5.4
Seventh	4.4
Eighth	3.6
Ninth	2.5
Tenth	1.6
Income, Missing	5.3

Sources: (i) March 2009 CPS, work experience and income supplement, public use files.
(ii) October – December 2009 CPS public use files.

The incidence of underemployment problems among the employed varied widely across the ten household income deciles, falling steadily and steeply as the income position of the household improved. Over 20 percent of the employed in the bottom decile of the income distribution were underemployed as were 17 percent of those in the second lowest decile (Table 1). The incidence of underemployment problems fell in the 5 to 6 percent range for those workers in the middle two deciles and declined to lows of 2.5 and 1.6 percent for those workers living in households in the top two deciles. The incidence of underemployment problems in the fourth quarter of 2009 was 13 times higher among those workers in the bottom household income decile as opposed to those residing in the top decile of the income distribution (20.6% vs. 1.6%). These stark findings clearly reveal that the economic costs of underemployment in the current U.S. economy were disproportionately borne by workers at the lower end of the income distributions. Thus, underemployment contributes in an important way to the high and rising degree of income inequality in the United States and to growing poverty in the recession.

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The Incidence of Labor Underutilization Problems in 2009 Across Household income Groups: Who Bears the Burden in the Great Recession of 2009?

The above findings on the extraordinarily large gaps in the incidence of underemployment problems across workers in different household income groups led us to extend the analysis to the incidence of other labor market problems, including open unemployment and hidden unemployment; i.e., workers who express a desire for immediate employment but are not actively looking for work and thus are not counted as unemployed. We also have combined all three problem groups together (unemployed, underemployed, and hidden unemployed) and calculated values of the labor underutilization rate for workers in each of the ten household income groups in the fourth quarter of 2009.

The underutilized pool of labor in any household income group is simply the sum of the unemployed, the underemployed, and the labor force reserve (Chart 1). Each of these three groups is mutually exclusive. To calculate the underutilization rate for any given income subgroup of workers, we simply divide the total estimated number of underutilized workers by the sum of the number of persons in the civilian labor force (employed + unemployed) and the labor force reserve. The labor force reserve must be added to the denominator since the official labor force excludes them. The underutilization rate for workers in any income group can be interpreted in the following manner: for every 100 members in the adjusted civilian labor force in the fourth quarter of 2009, how many were left unemployed, underemployed, or a member of the labor force reserve.

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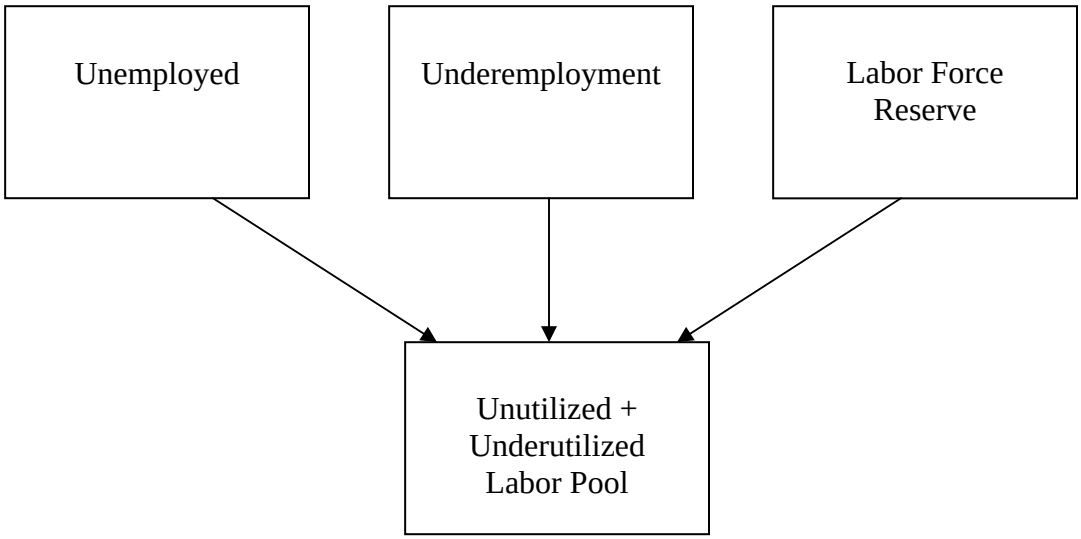
Chart 1:
Estimating the Combined Pool of Unutilized and
Underutilized Labor and the Overall Underutilization Rate



Official Civilian Labor Force + Labor Force Reserve = Adjusted civilian labor force

$$\frac{\text{Underutilized and Unutilized Labor}}{\text{Adjusted Civilian Labor Force}} = \text{Underutilization Rate in Percent}$$

Identifying the Income Boundaries of Each Household Income Decile

To identify the distribution of household incomes in the U.S. in calendar year 2008, we analyzed the findings of the March 2009 CPS work experience and income supplement. The March CPS collects detailed information on the sources of each household's income and the amount of the pre-tax, money income received during a calendar year from each source. The weighted distribution of those incomes was used to identify the cutoff points for each decile and are described in Table A in the appendix. We then used those findings to establish cutoff points for each decile of the household income distribution in the fourth quarter of 2009. The monthly CPS collects an estimate of each household's income in a categorical form. We matched the reported income category on the monthly CPS survey as close as possible to the decile income cutoffs for 2008. The boundaries of the ten household income deciles are displayed in Table 2.

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They range in value from under $12,500 in decile one to $12,500 – $20,000 in decile two to $150,000 or more in the top decile of the distribution.[6]

Table 2:
The Household Income Categories Used to Define Members of Each
Household Income Decile in the U.S. During the October – December Period of 2009

Income Decile	Range of Incomes
Lowest	$12,499 or less
Second	$12,500 to 20,000
Third	$20,000 to 29,999
Fourth	$30,000 to 39,999
Fifth	$40,000 to 49,999
Sixth	$50,000 to 59,999
Seventh	$60,000 to 75,000
Eighth	$75,000 to $99,999
Ninth	$100,000 to 149,999
Top	$150,000 or more

The Unemployment Rates of U.S. Workers by Household Income Decile in the Fourth Quarter of 2009

The unemployment problems of U.S. workers have substantially increased in absolute size and their incidence during the Great Recession of 2007-2009, and the character of these unemployment problems also has changed markedly. In the October-November period of 2007, the two months immediately preceding the onset of the recession, the average monthly number of unemployed persons (not seasonally adjusted) was only 6.845 million. Over the following two years, the number of unemployed (16+) would more than double to 14.477 million in the October-November period of 2009. The average monthly unemployment rate (not seasonally adjusted) in the fourth quarter of 2009 was 9.5%[7] As unemployment increased by leaps and bounds, it also became considerably longer in duration, with a historically high mean duration of 29 weeks prevailing at the end of 2009, and a substantial majority of the unemployed being permanent job losers, especially blue collar workers.

[6] The cutoff point for the top decile likely contains slightly fewer than 10% of all households since nearly $139,000 in income was needed to make the top ten in 2004.
[7] The seasonally adjusted unemployment rate for this three month period was slightly under 10.1%, ranging from 10% in November and December to 10.2% in October,
See: U.S. Bureau of Labor Statistics, The Employment Situation: December 2009, January 2010.

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The unemployment rates of workers in the fourth quarter of calendar year 2009 varied extremely widely across the ten household income deciles.[8] Workers in the lowest income decile faced a Great Depression type unemployment rate of nearly 31% while those in the second lowest income decile had an unemployment rate slightly below 20% (Table 3 and Chart 2). Unemployment rates fell steadily and steeply across the ten income deciles. Workers in the top two deciles of the income distribution faced unemployment rates of only 4.0 and 3.2 percent respectively, the equivalent of full employment. The relative size of the gap in unemployment rates between workers in the bottom and top income deciles was close to ten to one. Clearly, these two groups of workers occupy radically different types of labor markets in the U.S.

Table 3:
Unemployment Rates and Underemployment Rates of Workers in the U.S. by Decile of the Household Income Distribution in the 4th Quarter of 2009 (in %)

Decile	(A) Unemployment Rate	(B) Underemployment Rate(1)	(C) Labor Force Reserve as % of Adjusted Labor Force
Lowest	30.8	20.7	9.9
Second	19.1	17.2	6.3
Third	15.3	12.7	3.0
Fourth	12.2	8.3	3.7
Fifth	9.0	6.1	3.0
Sixth	7.8	5.4	2.6
Seventh	6.4	4.4	1.9
Eighth	5.0	3.6	1.7
Ninth	4.0	2.5	1.5
Top	3.2	1.6	1.4

Note: (1) The underemployment rare is calculated by dividing the number of underemployed by the employed.

[8] It should be noted that workers are not distributed in equal numbers across the ten income deciles. The bottom two deciles contains a below average number of workers while the seventh and eighth deciles contain an above average.

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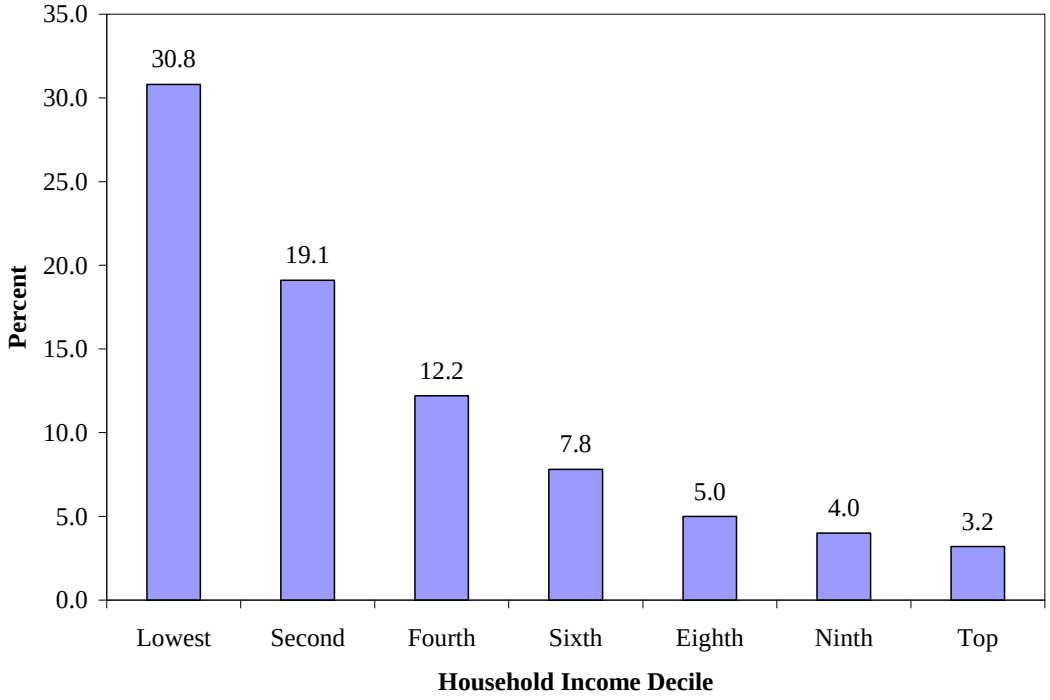
Chart 2:
Unemployment Rates in the U.S. for Workers in Selected Deciles of the Household Income Distribution, 4th Quarter 2009 (in %)



As noted in the introductory section of this paper, the underemployment rates of workers also varied to a very substantial degree across household income deciles in the fourth quarter of 2009. Workers in the lowest income households faced an underemployment rate of nearly 21% (Table 3 and Chart 3). More than 1 of every 5 workers in this income group was working part-time for economic reasons in the fourth quarter. The average underemployed worker only obtained 22-23 hours of work versus a mean of nearly 43 hours for their full-time employed peers. The incidence of these underemployment problems also fell steadily and considerably as we move up the income distribution, dropping to 6.1% for workers in the fifth decile to 3.6% in the eighth decile and to a low of only 1.6% for those workers in the top decile of the income distribution. Employed workers in the lowest income decile were 13 times as likely to be underemployed as workers in the top decile of the nation's income distribution in the fourth quarter of 2009. Again, workers at the bottom and top of the income ladder were encountering dramatically different labor market problems.

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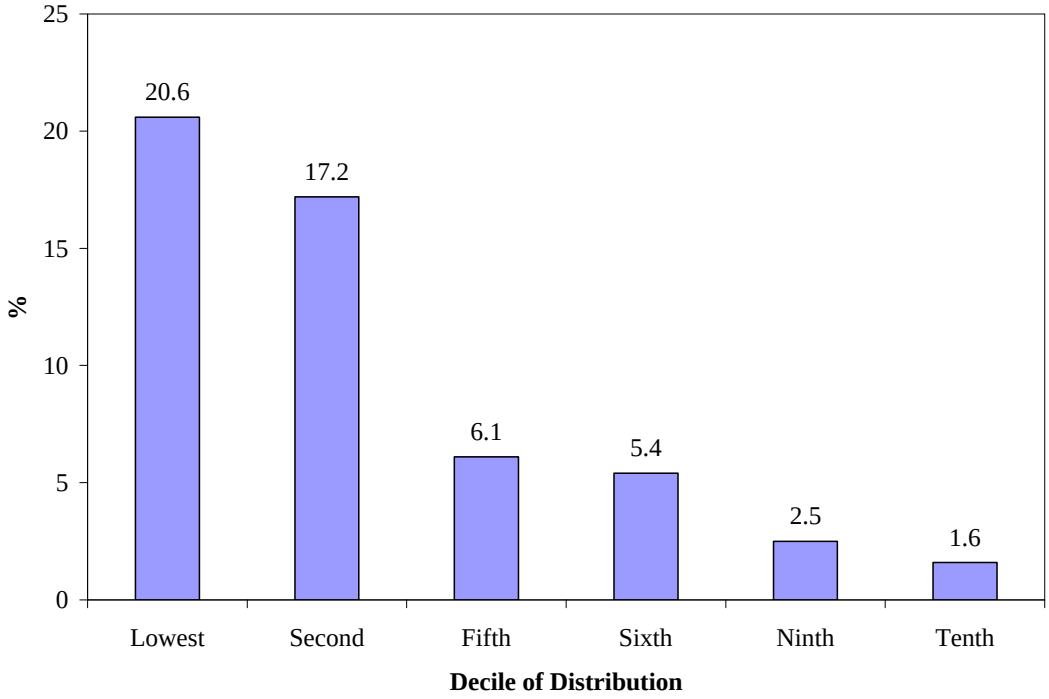
Chart B
The Incidence of Underemployment Problems Among U.S. Workers (16+) in Selected Deciles of the Household Income Distribution, October – December 2009
(in %)



Our third labor market problem group consists of members of the so-called labor force reserve or overhang.[9] These are individuals who were not actively participating in the labor force but who expressed a desire for immediate employment.[10] For workers in each decile of the income distribution, we divided the estimated number of persons in the labor force reserve by the adjusted civilian labor force. Findings are displayed in Column C of Table 3 and in Chart 4. Again, we find that the incidence of these labor force reserve problems (a type of hidden unemployment) is highest by far at the lower ends of the household income distribution and falls continuously and sharply as we move up the distribution. Nearly 1 of 10 members of the adjusted labor force with incomes in the bottom decile of the distribution were part of the labor force reserve versus only 5 of 100 among those in the third lowest decile, only 2 of 100 among those in the seventh decile, and only 1.5 of every 100 among those in the top two deciles. The incidence

[9] In his late 1970s book titled Good Jobs, Bad Jobs, No Jobs, Eli Ginzberg referred to this group on the margins of the labor force as the labor force overhang.
[10] The labor force reserve should not be confused with the BLS concept of the marginally attached. The latter group are a subset of the labor force reserve who have looked for a job in the past year and were available to take a job.

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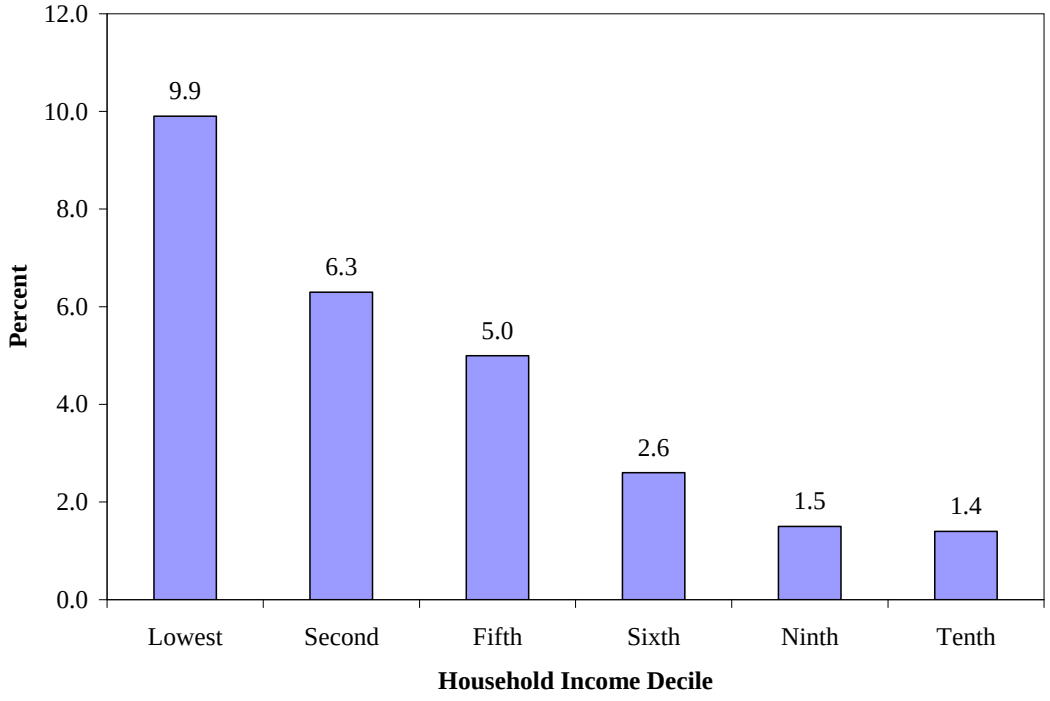
of these so-called hidden unemployment problems was 7 times higher among those in the bottom decile than among those in the top decile. Potential workers in the lower income groups were the most likely to have either withdrawn from active labor force participation or chosen not to enter the depressed labor market of late 2009 in search of paid work.

Chart 4:
The Incidence of Labor Force Reserve Problems Among U.S. for Workers in Selected Deciles of the Household Income Distribution, 4th Quarter 2009 (in %)



Findings on the estimated sizes of the unemployed, underemployed, and labor force reserve groups can be combined to estimate the overall labor underutilization rates for workers in each of the household income deciles.[11] The calculations for the underutilization rates for each income group are displayed in Table 4 and for selected decile in Chart 5. The range in these labor underutilization ratios is extremely wide as one would have expected given the huge gaps in each form of underutilization between the bottom and top deciles of the income distribution. The underutilization rate for workers in the lowest decile was slightly over 50% and remained

[11] One cannot simply add the three percentages in Table 4 to generate an underutilization rate since the denominator of the three ratios are somewhat different for each measure. The unemployment rate is based on the official civilian labor force, the base for the underemployment rate is the number of employed, and the labor force reserve is based on the adjusted civilian labor force.

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just under 38% for those in the second lowest decile. These extraordinarily high rates of labor underutilization among these two income groups would have to be classified as symbolic of a True Great Depression. Workers in the two deciles in the middle of the distribution (the fifth and sixth) faced underutilization rates of 15 to 17 percent, representative of a severe recession. In substantial contrast, workers in the top two income deciles encountered underutilization rates of only 6 to 8 percent. Given their very low official unemployment rates of 3.2% and 4.0% for the top and second highest deciles respectively, one would have to characterize their labor market situation as a near "full employment environment.

Table 4:
The Number of Unemployed and Underemployed Persons,
Members of the Labor Force Reserve, the Pool of Underutilized Labor, and
Labor Underutilization Rate by Decile of the Household Income Distribution, 4th Quarter 2009

Decile	(A) Unemployed	(B) Underemployed	(C) Labor Force Reserve	(D) Underutilized Pool	(E) Adjusted Labor Force	(F) Underutilization Rate
Lowest	2,523,484	1,172,379	869,399	4,565,292	9,093,930	50.2%
Second	1,377,456	1,005,855	488,993	2,872,304	7,700,944	37.6%
Third	1,885,492	1,330,302	642,565	3,858,359	12,958,122	29.8%
Fourth	1,686,509	1,012,634	527,184	3,226,327	14,342,149	32.5%
Fifth	1,018,953	632,966	350,506	2,002,065	11,726,027	17.1%
Sixth	925,351	594,148	311,318	1,830,817	12,169,020	15.0%
Seventh	972,009	622,585	29,492	1,894,0367	15,456,882	12.2%
Eighth	875,080	599,808	308,478	1,783,366	17,882,399	10.0%
Ninth	650,691	388,038	246,145	1,294,879	16,689,379	7.8%
Top	353,899	174,407	156,885	689,195	11,301,726	6.1%
All[(1)]	14,698,791	8,915,147	5,360,039	28,974,310	158,787,138	18.5%

[(1)] Note: The totals for "All" include persons with missing household incomes on the October/December 2009 files.

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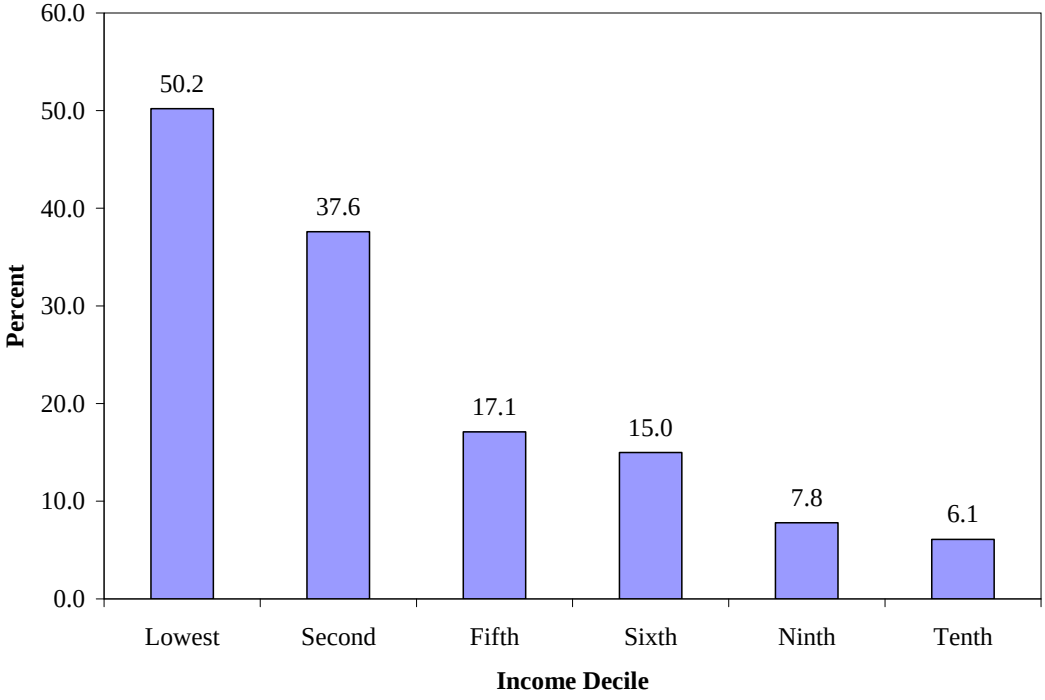
Chart 5:
Underutilization Rates of Workers in the U.S. by Selected Deciles of the Household Income Distribution in the 4th quarter of 2009
(in %)



At the end of calendar year 2009, as the national economy was recovering from the recession of 2007-2009, workers in different segments of the income distribution clearly found themselves in radically different labor market conditions. A true labor market depression faced those in the bottom two deciles of the income distribution, a deep labor market recession prevailed among those in the middle of the distribution, and close to a full employment environment prevailed at the top. There was no labor market recession for America's affluent.

In testifying before a Congressional committee in the late 1960s on the need for a sub-employment index to capture the high variations in labor market conditions in different neighborhoods and local labor markets, Secretary of Labor Willard Wirtz was asked how workers were doing on "on average". He reportedly replied, "When you have your head in the freezer and your feet in the oven, on average you are doing Ok." Similar remarks apply to the state of American labor markets today. Who will tell the people? Does anybody care?

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Appendix Table A:

The Household Income Boundaries of Each Decile of the Household Income Distribution in the U.S. in 2008

Income Decile	Range of Incomes
Lowest	$12,160 or less
Second	$12,160 – 20,725
Third	$20,725 – 29,680
Fourth	$29,680 – 39,000
Fifth	$39,000 – 50,000
Sixth	$50,000 – 63,000
Seventh	$63,000 – 79,100
Eighth	$79,100 – 100,500
Ninth	$100,150 – 138,700
Top	$138,700+

Source: March 2009 CPS survey, work experience and income supplement, public use files, tabulations by authors.

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