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An Uneven Road and Then a Cliff: US Labor Markets since 2000

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Report Abstract

The Great Recession of the past few years follows a complete economic cycle (2000-07) during which employment outcomes improved just barely for most Americans, while actually deteriorating for some. Hourly wages rose modestly but employment rates fell from their peaks in 2000, leading to overall earnings stagnation. Highly educated workers, those with the very highest earnings levels and women gained relatively more than others; less educated, male and/or younger workers fell behind, especially in the Midwest. During the Great Recession unemployment rates have risen most for younger, less-educated, and minority workers, especially men. Unemployment durations are very lengthy while labor market recovery is likely to be gradual. Policy responses should help unemployed workers during the short term, while raising worker skills and job quality in the longer term, and providing additional supports for those who will be forced to take low-wage jobs.

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Introduction

The Great Recession that began at the end of 2007 is the worst economic downturn since the 1930s, and has led to very high and lengthy periods of unemployment for many workers. But, even after we recover from this recession, we face the possibility of returning to a labor market whose secular trends are not very positive for most workers. Indeed, the groups hurt the most during the recession – especially less-educated men – also fared quite poorly in the period preceding this downturn. Thus, both shorter- and longer-term labor-market developments are sources of concern.

By analyzing data from the Current Population Surveys (CPS) for the years 2000-2010, covering both the last full economic cycle and the more recent severe downturn, our major findings are as follows:

- Despite fairly high growth in productivity, the rates of employment and earnings growth we observed overall were quite modest during the economic cycle that occurred between 2000 and 2007, especially relative to the boom years of the late 1990s (when employment rates rose to their highest levels in more than 30 years, while earnings improved across the entire labor force).[1]
- Inflation-adjusted hourly wages rose modestly and employment rates declined for most groups between 2000 and 2007. The largest gains in wages generally were observed among women and/or more-educated workers and the smallest gains (in wages) and largest losses (in employment) generally were observed among men and/or less-educated workers. Annual earnings also rose for women, especially the more-educated among them, while modest earnings losses for men were widespread. The large gaps in earnings and employment of the 1980s and 1990s between those with and without college credentials mostly widened in the past decade.
- In this same period, hourly and annual earnings increased most for those in the top decile of earners and often in the top one percent; this was true overall and even within education groups. Annual earnings of less-educated men declined at all points in their earnings distribution, while those of women, and especially those women already at the top of the earnings distribution, rose. Earnings also increased more for older workers relative to younger ones, and declined more for those residing in the Midwest and West.
- The severe recession that lasted officially from December 2007 through June 2009 generated very high unemployment rates and also lengthy durations of unemployment, especially for less-educated men, younger workers, minorities, and those in the Midwest and West. Thus, *many of the workers hurt most by the Great Recession also lagged behind during the preceding economic cycle.*

Our analysis begins by comparing the cycles 1989-2000 and 2000-2007, during which labor-market developments differed quite markedly. Then, we focus more specifically on the latter period. We analyze trends in wages and annual earnings (adjusted for inflation) as well as employment rates in the latter years, looking especially at who benefitted from growth during these years and who did not.

[1] See Krueger and Solow (2002) and Stiglitz (2003) for reviews of economic performance during the 1990s.

Then we consider the more recent effects of the Great Recession in more detail. Finally, we conclude with some thoughts about the nature of the long-term trends to which we will return after we (slowly) recover from the Great Recession, and about labor-market policies that would be helpful both in the shorter term and beyond.

A Tale of Two Economic Cycles

Table 1 presents data on a range of labor market outcomes from the years 1989-2000 and 2000-2007, the last two completed economic cycles measured from one peak to the next.[2] Because the former period is longer than the latter, all outcomes are measured in average annual terms. Also, the former period is divided into two subperiods of roughly equal length (ending and starting respectively in 1995), as the outcomes observed in each differ considerably from one another.

The data show that productivity growth (defined as the increase in output, or inflation-adjusted gross domestic product per hour of work) was relatively high during each cycle, averaging 2.1 percent between 1989 and 2000 and 2.7 percent between 2000 and 2007. But annual employment growth lagged significantly in the latter period (0.8 percent) compared to the former (1.8 percent). Growth in real compensation, which includes both earnings and the value of employer-provided fringe benefits such as contributions to health insurance and pensions, was comparable across the two periods overall, as was growth in hourly and weekly real earnings.

Yet when we consider the two subperiods that constitute the 1990s, a somewhat different picture emerges. Labor-market outcomes during the period 1989-1995 were considerably weaker than those of 1995-2000. In the latter, high productivity growth (of 2.4 percent per year) translated into high employment growth (at 2.4 percent per year) as well as high rates of growth in real compensation (2.0 percent), hourly (1.7 percent) and weekly wages (1.6 percent). But after 2000, only the high rates of productivity growth were maintained (and strengthened a bit), while all other labor-market outcomes weakened. For example, compensation increased by just 1.5 percent and weekly earnings by 0.7 percent.

What might account for the differences across the two cycles? Gaps between productivity and compensation growth in either period at least partly reflect measurement issues. The prices for capital goods (especially computers) and other inputs that are used to adjust for inflation when measuring productivity have risen more slowly than the consumer prices that are used in compensation and earnings, causing compensation to rise more slowly than productivity over time in both periods. More important, the more-rapidly rising costs of health care we observed after 2000 have also limited the extent to which compensation growth results in earnings and hourly wage growth in that time.[3]

[2] While the National Bureau of Economic Research (NBER) has formally declared that the Great Recession began in December 2007, it did not affect labor markets until 2008. Thus we treat 2007 here as a peak year. In contrast, the recession of 1990-91 began midyear and affected labor-market outcomes that year, so we treat 1989 as the peak year of the previous cycle.

[3] According to the Kaiser Family Foundation (2010), health care premiums increased by 114 percent in nominal terms between 2000 and 2010, with employer contributions more than doubling in this time period. This is a far higher rate of growth than was observed during the 1990s.

Table 1
Annual Growth Rate of Selected Indicators
1989-2000 and 2000-2007

	Average Annual Growth Rate				
Time Period	**Productivity**	**Real Hourly Compensation**	**Employment**	**Real Hourly Wages**	**Real Weekly Earnings**
1989-2000	2.1 %	1.5 %	1.8 %	0.9 %	0.8 %
1989-1995	1.6 %	0.8 %	1.4 %	0.0 %	-0.1 %
1995-2000	2.4 %	2.0 %	2.4 %	1.7 %	1.6 %
2000-2007	2.7 %	1.5 %	0.8 %	0.9 %	0.7 %

Notes: Productivity (i.e., output per hour) and compensation growth figures relate to non-farm businesses, and are derived from the Major Sector Productivity data of the Bureau of Labor Statistics. Employment figures include total non-farm employment, and are derived from the Current Employment Statistics survey. Earnings figures relate to production and non-supervisory on private non-farm payrolls, and are derived from the Current Employment Statistics survey. Hourly and weekly earnings, as well as after-tax corporate profits, are deflated using the chain-weighted Personal Consumption Expenditures (PCE) version of the GDP deflator, constructed by the Bureau of Economic Analysis.

Source: Bureau of Labor Statistics, Bureau of Economic Analysis.

But the differences between the two periods likely reflect differences in underlying economic and institutional forces as well.[4] When both employment and compensation grow more slowly in one time period than another, most economists will infer that the *demand* for labor among employers is likely growing more slowly in that period, relative to its *supply*. During the late 1990s, strong demand among consumers for goods and services apparently generated strong demand for workers by employers; productivity growth helped keep down costs and prices.

However, during the 2000s, employers seemed able to meet the growing demand for goods and services with relatively less growth in the numbers of workers they employed, perhaps using technological change and globalization (in the form of imports of goods or offshoring of service production) more successfully to limit employment.[5] And, as their demand for labor became more limited, their need to compensate workers more highly in order to attract and retain them diminished as well. As a result, the share of profits in gross domestic product rose as well in this period; and, due to some peculiarities in the structure of financial-market bonuses and executive compensation, the amount of compensation that went to very small numbers of financial managers and corporate executives rose quite dramatically.[6]

Overall, the boom period 1995-2000 appears to have been an outlier, in terms of labor market outcomes, relative to other years both earlier and later.[7] Thus, we focus more heavily on the period 2000-2007 below, which we believe more likely reflects secular trends in the U.S. labor market.

The Distribution of Employment and Earnings Growth, 2000-2007

Modest increases in the demand for labor in the aggregate likely limited overall employment and earnings growth during 2000-2007. Still, aggregate average growth rates can mask wide differences in employment and earnings growth across different groups of workers.

Tables 2a and 2b presents data for the period 2000-2007 on mean hourly wages, the employment/population ratio, and mean annual earnings for persons between the ages of 16 and 69. Both wages and earnings are adjusted for inflation (here and below). Annual earnings represent the product of hourly earnings and the numbers of hours worked in any year, with hours worked defined as average hours worked per week times the numbers of weeks employed per year. Weeks worked, in turn, reflect average employment rates for any group.

Thus, levels and trends in average annual earnings should, at least to some extent, reflect them in hourly earnings and employment rates for different groups. Accordingly, we present hourly earnings

[4] For a discussion of labor-market trends that heavily stress the role of basic market forces see Autor et al. (2008); while those that place more weight on institutions include Card and Dinardo (2007) and Freeman (2007).
[5] See Bhagwati and Blinder (2009) for recent discussions of how changing forms of globalization are affecting American labor markets.
[6] After-tax corporate profits averaged 5.5 percent of GDP during the period 1989-2000 and 7.3 percent of GDP during 2000-07. See Bebchuk and Fried (2004) for evidence on rising levels of executive pay over time, and Roubini and Mihm (2010) for a discussion of financial market compensation in the past decade. Levy and Temin (2007) discuss the role of changing labor-market norms about the appropriateness of enormous gaps between executive and other levels of pay within firms, though perhaps these norms are themselves driven by changing market forces.
[7] See the papers listed in Footnote 4 for evidence on labor-market trends going back to the 1970s.

Table 2a
Mean Employment Outcomes
By Gender and Education
2000-2007

Category	Hourly Wages (2010 dollars)			Employment/Population Ratio		
	2000	2007	Change	2000	2007	Change
All	$ 20.23	$ 21.63	6.9 %	0.71	0.69	-0.02
By Gender:						
Men	$ 22.81	$ 24.01	5.3 %	0.77	0.75	-0.02
Women	17.45	19.08	9.3	0.65	0.64	-0.01
By Education:						
High School Dropouts	$ 12.10	$ 12.73	5.1 %	0.49	0.48	-0.01
High School Graduates	16.26	16.77	3.2	0.68	0.66	-0.02
Some College, No Degree	18.31	18.54	1.3	0.75	0.72	-0.03
Associate's Degree	20.06	20.83	3.9	0.80	0.77	-0.03
Bachelor's Degree	27.11	28.33	4.5	0.81	0.79	-0.02
Advanced Degree	33.42	35.82	7.2	0.83	0.81	-0.02
Men by Education:						
High School Dropouts	$ 13.54	$ 14.01	3.4 %	0.58	0.57	-0.01
High School Graduates	18.56	18.77	1.2	0.76	0.73	-0.03
Some College, No Degree	20.84	20.89	0.2	0.81	0.77	-0.04
Associate's Degree	22.84	23.20	1.6	0.84	0.81	-0.03
Bachelor's Degree	30.60	31.99	4.5	0.87	0.85	-0.02
Advanced Degree	37.15	40.65	9.4	0.86	0.85	-0.01
Women by Education:						
High School Dropouts	$ 10.05	$ 10.66	6.1 %	0.40	0.39	-0.01
High School Graduates	13.78	14.43	4.7	0.62	0.60	-0.03
Some College, No Degree	15.75	16.24	3.1	0.70	0.67	-0.03
Associate's Degree	17.76	18.86	6.2	0.76	0.74	-0.02
Bachelor's Degree	23.45	24.72	5.4	0.75	0.74	-0.01
Advanced Degree	28.99	30.79	6.2	0.79	0.77	-0.02

Notes: The sample is restricted to ages 16-69. It excludes agriculture and the military. It also excludes full-time students and self-employed individuals. Individuals with with hourly wages below $2 and above $5,000 are not included.

Source: Current Population Survey, Outgoing Rotation Groups.

Table 2b
Mean Employment Outcomes
By Gender and Education
2000-2007

Category	Annual Earnings 2000	2007	Change
	(2010 dollars)		
All	$ 44,183	$ 45,357	2.7 %
By Gender:			
Men	$ 54,516	$ 53,404	-2.0 %
Women	33,331	36,767	10.3
By Education:			
High School Dropouts	$ 23,134	$ 23,322	0.8 %
High School Graduates	32,881	32,869	0.0
Some College, No Degree	39,157	38,346	-2.1
Associate's Degree	42,862	42,445	-1.0
Bachelor's Degree	61,364	60,302	-1.7
Advanced Degree	84,181	83,709	-0.6
Men by Education:			
High School Dropouts	$ 27,802	$ 26,681	-4.0 %
High School Graduates	39,979	38,234	-4.4
Some College, No Degree	48,493	45,716	-5.7
Associate's Degree	53,741	50,380	-6.3
Bachelor's Degree	77,450	74,118	-4.3
Advanced Degree	104,785	103,270	-1.4
Women by Education:			
High School Dropouts	$ 16,792	$ 17,563	4.6 %
High School Graduates	25,271	26,494	4.8
Some College, No Degree	30,025	31,156	3.8
Associate's Degree	33,552	35,978	7.2
Bachelor's Degree	45,223	47,069	4.1
Advanced Degree	60,633	64,325	6.1

Notes: This sample is restricted to ages 16-69. It excludes agriculture and the military. It also excludes full-time students and self-employed individuals. Individuals with annual earnings below $1,000 and above $10 million are not included.

Source: Current Population Survey, Annual Social and Economic Supplement.

and employment rates in Table 2a and annual earnings in 2b. For each measure, we present levels in 2000, 2007, and rates of change over the entire period. Separate results appear for males and females, and also for groups within each gender defined by their levels of educational attainment: high-school dropouts, high-school graduates, and those with associate's, bachelor's and graduate degrees.

Table 2a shows that mean hourly earnings rose for most groups between 2000 and 2007, while employment rates generally declined slightly. Hourly wage gains were generally modest, 6.9 percent over the whole period, averaging just 1 percent per year overall, though they were larger for women than for men, 9.3 percent versus 5.3 percent over the whole period.[8] Within each gender, the smallest hourly earnings gains in percent terms appear at the middle of the education distribution, among those with more than a high-school diploma but less than a bachelor's degree.

At least superficially, these earnings changes are consistent with the notion of growing labor market polarization and declining earnings in the middle of the distribution, relative to that at the top or bottom, as David Autor (2010) and others have argued. On the other hand, the absolute magnitudes of the gains in hourly earnings among high-school dropouts and high-school graduates are very small (based on increases of 5.1 percent on a very low earnings level versus 3.2 percent on a somewhat higher one), while those for college graduates and above are substantially larger (based on changes of 4.5 percent and 7.2 percent on much higher earnings levels). Thus, the gaps in hourly earnings across education groups that grew so wide in the 1980s and 1990s mostly tended to further widen in the 2000-2007 economic cycle.

And employment rates, while declining from their peaks in 2000 among most groups, tended to decline more among those with less than a bachelor's degree and especially among men, thus reinforcing the general pattern of changes observed for these groups in hourly wages. Declining employment reflected both lower labor-force participation for most groups and lower employment (or higher unemployment) for those in the labor market. The fact that changes in hourly wages and employment rates are positively correlated across groups also suggests that shifts in employer demand, away from less-educated workers and especially men and towards more educated workers and/or women in the service sectors, are likely driving the observed changes in relative employment outcomes.

Accordingly, in Table 2b we see that annual earnings on average grew by 10.3 percent for all women, with larger gains observed among those with more educational attainment, while real earnings declined by 2.0 percent for all men. Again, the large gaps in earnings that already existed across these educational groups in 2000 – reflecting growing earnings inequality during the previous two decades – either remained or widened a bit more over the period 2000-2007.[9]

By 2007, all high-school graduates were earning just 55 percent of what college graduates were earning ($32,869 versus $60,302), while those with bachelor's degrees were earning only 72 percent of what those with advanced degrees earned ($60,302 versus $83,709). These gaps are quite high by any historical standard. At the same time, the earnings of women were now 69 percent relative to those of men ($36,767 versus $53,404); the gender gap has been declining, but has not disappeared, over the last several decades.[10]

[8] The increases in hourly wages are statistically significant, as are the declines in employment rates. Details regarding the standard errors on our estimates are available from the authors.

[9] See Goldin and Katz (2008) for a recent discussion of how and why the gaps in earnings between more- and less-educated Americans have widened during the past three decades.

[10] The progress of women relative to men in the workforce in relative earnings seems to reflect higher levels of education and experience among women relative to what they earned in the past; indeed, women now go to college and earn bachelor's degrees at significantly higher rates than men. At the same time, their relative earnings might still be impeded by labor-market discrimination as well as by the loss of work experience for mothers associated with childbearing and childrearing.

Table 3a
Hourly Wages
Across the Wage Distribution
2000-2007

Category	10th Percentile			50th Percentile (Median)			90th Percentile			99th Percentile		
	2000	2007	Change	2000	2007	Change	2000	2007	Change	2000	2007	Change
	(2010 Dollars)			(2010 Dollars)			(2010 Dollars)			(2010 Dollars)		
All	$ 8.39	$ 8.47	0.91 %	$ 16.40	$ 17.14	4.51 %	$ 35.71	$ 38.83	8.73 %	$ 76.95	$ 82.70	7.48 %
By Gender:												
Men	$ 9.14	$ 9.35	2.28 %	$ 18.71	$ 19.22	2.71 %	$ 40.12	$ 42.79	6.67 %	$ 88.88	$ 91.54	2.99 %
Women	7.77	8.06	3.81	14.31	15.29	6.89	30.26	33.78	11.64	59.07	69.87	18.27
By Education:												
High School or Less	$ 7.46	$ 7.76	4.13 %	$ 12.79	$ 13.20	3.19 %	$ 25.26	$ 26.35	4.34 %	$ 44.50	$ 48.66	9.36 %
Bachelor's Degree or More	12.15	12.18	0.21	24.80	25.51	2.84	49.18	52.79	7.33	99.90	101.23	1.34
Men by Education:												
High School or Less	$ 8.11	$ 8.35	3.01 %	$ 14.87	$ 15.02	1.06 %	$ 28.52	$ 29.30	2.74 %	$ 49.22	$ 52.61	6.88 %
Bachelor's Degree or More	13.51	13.23	-2.01	28.33	29.16	2.94	55.64	61.67	10.84	115.07	102.06	-11.30
Women by Education:												
High School or Less	$ 7.17	$ 7.33	2.18 %	$ 11.20	$ 11.57	3.36 %	$ 20.82	$ 21.46	3.07 %	$ 35.71	$ 40.78	14.19 %
Bachelor's Degree or More	11.07	11.22	1.37	22.02	22.84	3.72	41.75	44.79	7.27	81.37	92.93	14.21

Notes: The sample is restricted to ages 16-69. It excludes agriculture and the military. It also excludes full-time students and self-employed individuals.

Source: Current Population Survey, Outgoing Rotation Groups.

Table 3b
Annual Earnings
Across the Earnings Distribution
2000-2007

Category	10th Percentile			50th Percentile (Median)			90th Percentile			99th Percentile		
	2000	2007	Change	2000	2007	Change	2000	2007	Change	2000	2007	Change
	(2010 Dollars)			(2010 Dollars)			(2010 Dollars)			(2010 Dollars)		
All	$ 8,912	$ 9,474	6.3 %	$ 33,420	$ 34,485	3.2 %	$ 80,764	$ 84,214	4.3 %	$ 254,601	$ 210,534	-17.3 %
By Gender:												
Men	$ 12,873	$ 12,632	-1.9 %	$ 41,465	$ 41,054	-1.0 %	$ 99,021	$ 100,530	1.5 %	$ 414,793	$ 442,089	6.6 %
Women	6,189	7,369	19.1	27,231	29,475	8.2	61,888	68,424	10.6	123,776	147,374	19.1
By Education:												
High School or Less	$ 6,189	$ 6,569	6.1 %	$ 24,755	$ 25,264	2.1 %	$ 56,563	$ 55,988	-1.0 %	$ 101,497	$ 106,320	4.8 %
Bachelor's Degree or More	16,710	16,843	0.8	51,986	52,633	1.2	119,913	121,057	1.0	414,793	442,089	6.6
Men by Education:												
High School or Less	$ 9,902	$ 9,362	-5.5 %	$ 30,944	$ 29,475	-4.7 %	$ 64,983	$ 63,160	-2.8 %	$ 123,775	$ 121,057	-2.2 %
Bachelor's Degree or More	23,951	24,939	4.1	66,839	63,160	-5.5	148,532	147,374	-0.8	414,793	442,089	6.6
Women by Education:												
High School or Less	$ 4,332	$ 5,263	21.5 %	$ 19,804	$ 21,053	6.3 %	$ 43,322	$ 43,686	0.8 %	$ 74,266	$ 85,224	14.8 %
Bachelor's Degree or More	12,378	12,632	2.1	43,322	44,212	2.1	86,644	94,165	8.7	175,763	210,534	19.8

Notes: The sample is restricted to ages 16-69. It excludes agriculture and the military. It also excludes full-time students and self-employed individuals.

Source: Current Population Survey, Annual Social and Economic Supplement.

Workers holding associate degrees continue to enjoy substantial earnings gains relative to high-school graduates and dropouts, as do college graduates to an even greater degree. Thus the economic returns to postsecondary degrees at both the associate's and especially the bachelor's degree levels remain strong, and there are important opportunities for advancement of less-skilled workers in both the middle as well as the top of the labor market.[11]

But, even within gender and education groups, the observed changes in average (mean) earnings mask a wide distribution of larger and smaller changes. So, in Table 3, we consider the levels of hourly and annual earnings in 2000 and 2007 (in parts a and b of the table respectively), as well as percent changes, between these years, for workers at different points in the earnings distribution: at the 10th, 50th, 90th and 99th percentiles of earnings. These numbers are presented for all workers and also for less- and more-educated workers, represented by those with a high school diploma or less versus those with a bachelor's degree or greater.

Table 3 shows that median hourly and annual earnings (at the 50th percentile) of workers overall increased only very modestly, by 4.51 percent and 3.2 percent respectively, during the 2000-2007 period. But hourly earnings grew much more substantially for those at the 90th percentile of earnings, 8.73 percent for all workers, and especially at the 99th percentile among women, about 19 percent. The very large gaps across the whole earnings distribution that already existed in 2000 thus widened further during this economic cycle. Among more-educated workers and especially more-educated women, the earnings increases at the top of the distribution were very pronounced. Thus, the corporate executives and financial market managers who were heavily concentrated among that top one percent did much better than all other workers.

In Table 4 we present similar measures of annual earnings levels and changes, but this time for demographic groups defined by age, race and geographic region. We find that some groups consistently outperformed others in terms of earnings growth during this period. On average, older workers improved their earnings while younger workers did worst; Hispanics did better than blacks and whites; and residents of other regions outperformed those in the Midwest.

Younger workers were most affected by labor-market shifts, especially in the industrial heartland of the Midwestern region. A dramatic nationwide decline occurred in manufacturing employment during 2000-2007, when about one-fifth of all such jobs disappeared. This decline no doubt contributed to the relatively weaker labor-market performance of less-educated men and especially those residing in the Midwest. In contrast, the two coasts boomed during this period, though all of these areas suffered considerably during the Great Recession that followed.[12]

[11] The notion that the middle of the job market has been disappearing has been advanced by Autor (2010) and challenged by Holzer (2010), among others.

[12] According to the Bureau of Labor Statistics (2011), the nation's manufacturing employment dropped from 17.3 million in 2000 to 13.9 million in 2007. The latter continued to fall to nearly 11 million in 2010, thus further weakening the Midwest region during the Great Recession. But the bursting of the housing price bubble was more severe in several coastal areas, thus contributing to severe recessionary effects there as well.

Table 4
Hourly Wages and Annual Earnings
By Demographic Group, Education and Census Region
2000-2007

Category	Median Hourly Wages			Median Annual Earnings		
	2000	2007	Change	2000	2007	Change
	(2010 Dollars)			(2010 Dollars)		
All	$ 16.40	$ 17.14	4.51 %	$ 33,420	$ 34,485	3.2 %
By Age Group:						
16-34	$ 13.72	$ 13.92	1.47 %	$ 26,612	$ 26,317	-1.1 %
35-54	18.65	19.59	5.01	39,391	40,001	1.6
55-69	17.01	18.85	10.80	33,420	36,843	10.2
By Race:						
White	$ 17.70	$ 18.67	5.43 %	$ 37,133	$ 37,896	2.1 %
Black	13.77	14.39	4.48	28,469	29,475	3.5
Hispanic	12.31	13.05	6.01	23,518	25,264	7.4
By Census Region:						
Northeast	$ 17.70	$ 18.57	4.91 %	$ 37,133	$ 36,843	-0.8 %
Midwest	16.80	16.90	0.61	34,657	33,685	-2.8
South	15.18	15.96	5.19	30,944	31,791	2.7
West	17.24	18.18	5.47	33,420	35,791	7.1

Notes: The sample is restricted to ages 16-69. It excludes agriculture and the military. It also excludes full-time students and self-employed individuals.

Source: Current Population Survey, Outgoing Rotation Groups and Annual Social and Economic Supplement.

The Effects of Two Recessions: 2000-2003 and 2007-2010

As previously indicated, the short expansion period of the last decade was sandwiched between two recessions: one at the outset of the decade, which depressed labor-market outcomes between 2000 and 2003; and one at its close, beginning at the end of 2007 and reaching its trough in 2010.[13]

Of course, the latter – popularly known as the Great Recession – was far more severe in its employment impacts. Table 5 presents data on changes in three outcomes: unemployment rates, average unemployment durations, and the percentages of the unemployed with long-term unemployment, defined as being more than 26 weeks. We consider how these outcomes changed over the recessionary peak-to-trough periods in 2000-2003 and 2007-2010, and for many of the education and demographic groups considered above.

The data show that much more severe increases in unemployment occurred in the latter period. In both recessions, the groups most seriously affected were young, less-educated, minority and especially male; this was particularly true during the Great Recession. Especially high levels of unemployment were reached in both the Midwest and Western regions, where unemployment reached 9.6 percent and 10.9 percent respectively in 2010, compared to 5.1 percent and 4.7 percent in 2007, the previous business cycle peak. This likely reflects severe job losses in Midwestern manufacturing and Western housing price declines. Indeed, many of the same groups whose earnings improved the least during the expansion of 2000-2007 suffered the greatest increases in unemployment during the Great Recession, especially among the young. If these workers are in any way "scarred" by their unemployment, with longer-term decreases in their employment rates or earnings resulting from periods without work, then the Great Recession will exacerbate the difficulties that less-educated and/or minority young men were experiencing as of 2007.[14]

Of particular note: The percentages of unemployed workers out of work for more than six months grew in 2010 to about 46 percent, compared to 25 percent at the trough of the last recession. There has been some evidence, especially from Europe in the 1980s, that the long-term unemployed have more difficulty regaining employment when the economy picks up steam. Perhaps they are stigmatized in the eyes of employers, or their skills and labor market contacts deteriorate while out of work for so long.[15]

If this becomes true in the U.S., then the long-term unemployed will suffer from high unemployment and reduced earnings for many years to come. And, if the recovery from this recession in the labor market proceeds as slowly as is currently expected, with the unemployment rate remaining elevated (i.e., above 5 percent) through 2015, then large fractions of the unemployed could have difficulty regaining employment when demand picks up.

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[13] The recession earlier in this decade was formally limited to the year 2001 by the Business Cycle Dating Committee of the National Bureau of Economic Research (NBER). However, labor markets often lag behind product markets around business cycles. The labor-market trough of that recession occurred in 2003. Similarly, the NBER has declared that the Great Recession ended in mid-2009, but its labor-market trough occurred in 2010.

[14] For evidence on how lengthy periods of unemployment can "scar" younger workers with lower earnings over time, see Kahn (2010) and von Wachter (2010).

[15] For some discussion of how lengthy periods of unemployment tend to persist over time and reduce future employment and earnings, see Dao and Loungani (2010).

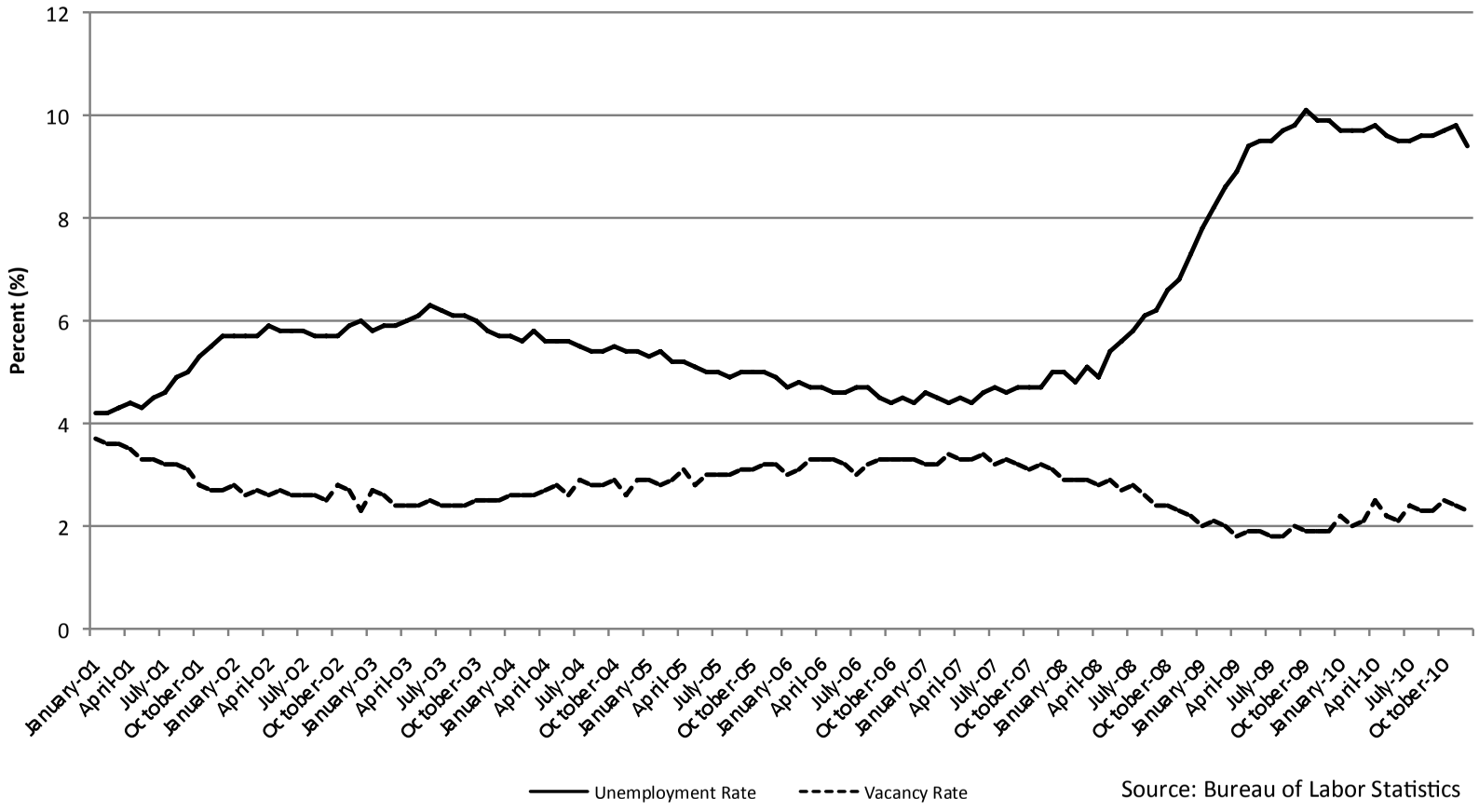
Table 5
Unemployment Measures
By Gender, Education, Demographic Group and Census Region
2000-2010

Category	Unemployment Rate				Mean Duration of Unemployment				Unemployment Duration Over 6 Months (% of Unemployed Individuals)			
	2000	2003	2007	2010	2000	2003	2007	2010	2000	2003	2007	2010
	(Percent)				(Weeks)				(Percent)			
All	3.90 %	6.06 %	4.57 %	9.68 %	13.7	21.0	18.0	35.0	12.48 %	24.84 %	19.44 %	46.32 %
By Gender:												
Men	3.80 %	6.45 %	4.69 %	10.69 %	14.2	21.7	18.9	35.5	12.95 %	26.64 %	20.33 %	47.18 %
Women	4.00	5.64	4.44	8.62	13.2	20.1	17.1	34.4	11.99	22.64	18.43	45.20
By Education:												
- Broad Categories												
High School or Less	5.74 %	8.24 %	6.52 %	13.80 %	13.8	19.8	18.2	35.2	12.48 %	23.10 %	19.74 %	46.43 %
Bachelor's Degree or More	1.82	3.47	2.30	5.17	15.2	24.2	18.8	34.0	14.74	29.20	19.66	45.08
- Detailed Categories:												
High School Dropouts	9.22 %	12.08 %	9.62 %	18.37 %	13.7	18.9	18.4	34.8	12.79 %	21.71 %	20.69 %	45.51 %
High School Graduates	4.54	6.90	5.50	12.41	14.0	20.4	18.0	35.4	12.26	23.95	19.19	46.84
Some College, No Degree	3.35	5.97	4.76	10.38	11.6	20.9	17.1	35.0	9.54	25.30	18.59	46.99
Associate's Degree	2.44	4.46	3.42	7.45	15.1	22.7	18.0	35.7	16.06	27.51	18.79	46.72
Bachelor's Degree	2.02	3.75	2.43	5.87	14.7	23.9	19.1	33.8	14.70	28.41	19.50	44.79
Advanced Degree	1.41	2.90	2.03	3.78	16.7	24.9	17.9	34.7	14.85	31.31	20.04	45.96
By Age Group:												
16-34	5.58 %	8.27 %	6.56 %	12.74 %	11.8	17.6	16.2	30.5	9.83 %	19.46 %	17.05 %	39.75 %
35-54	2.88	4.81	3.47	8.12	15.3	23.6	19.2	37.5	14.51	29.02	21.14	50.35
55-69	2.78	4.68	3.45	7.81	19.5	27.2	22.2	42.6	20.77	34.79	24.42	56.42
By Race:												
White	3.10 %	4.99 %	3.87 %	8.18 %	12.1	20.2	16.7	34.3	10.26 %	23.82 %	17.31 %	45.39 %
Black	7.29	10.50	7.87	15.63	17.1	25.0	23.2	39.0	16.35	30.65	27.34	51.57
Hispanic	5.23	7.10	5.26	11.98	14.5	16.8	15.1	32.4	14.29	18.00	14.62	42.75
By Census Region:												
Northeast	3.87 %	6.13 %	4.42 %	8.98 %	17.3	23.0	19.5	36.0	16.78 %	28.71 %	20.47 %	47.43 %
Midwest	3.73	5.94	5.12	9.61	12.3	20.5	19.8	35.6	10.67	24.14	22.48	46.31
South	3.69	5.84	4.19	9.33	13.3	20.1	17.1	34.0	12.13	23.17	18.42	45.42
West	4.43	6.47	4.73	10.90	12.8	20.9	16.3	35.1	11.38	24.74	16.72	46.82

Notes: The sample is restricted to ages 16-69. It excludes agriculture and the military. It also excludes full-time students and self-employed individuals.

Source: Current Population Survey, Outgoing Rotation Groups.

Figure 1:
National Unemployment and Job Vacancy Rates, 2001-2010



Source: Bureau of Labor Statistics

This could also result if the structure of the economy and the labor market undergoes more rapid permanent change during this downturn than usual, with jobs growing in new firms and demanding new skill sets relative to those which workers possess. If some of the observed declines in manufacturing employment are permanent, such shifts in the structure of employment and skills demanded during the recovery become more likely. Or the new jobs might be located in different regions of the country than where the unemployed live, and their geographic mobility could be impeded by the declines in housing prices that they have experienced.

Either way, some "structural" unemployment would result, making it harder for employers to fill vacant jobs once they begin to grow in number. A bit of evidence on this appears in Figure 1, where we present both unemployment and job vacancy rates from January 2001 through October 2010. Though unemployment and job vacancy rates tend to move in opposite directions, there is some evidence of rising job vacancy rates in late 2009 and much of 2010, even while unemployment remains very high. This suggests the possibility of some structural impediments to filling vacant jobs, though more data are needed to prove this.[16]

Conclusion and Implications for Policy

The data above show that the labor market for much of the previous decade was uneven in the best years and cataclysmic in the worst. During 2000-2007, overall employment and earnings growth were quite modest; the median worker gained little ground, while less-educated men, as well as young and/or Midwest workers, lost relative ground. Then, in the years during and after the Great Recession, unemployment rose dramatically – and especially among the same groups who had not fared well earlier in the decade.

Most economists expect a slow recovery from the current downturn, which is often the case after a financial "bubble" bursts. Unemployment remained more than 9 percent for all of 2010 and will likely remain high for the next several years, declining only modestly each year.[17] For example, in January 2011, the Congressional Budget Office forecast that the unemployment rate would remain above 5 percent for most of 2015.

Previous research shows that certain groups of workers – especially the young who enter the labor market during such inauspicious times and permanent job losers who suffer long-term unemployment – are likely to be "scarred" by their experiences and to suffer from lower earnings for many years, even after the labor market recovers.

And, when such recovery occurs, to what kind of labor market will we return? Are we more likely to revert to the economy of the latter part of the 1990s, with its widely shared employment and earnings growth, or the 2000s, when the growth in demand for many kinds of labor was more limited, and when employment and earnings growth were limited and uneven as well?

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[16] See Elsby et al. (2010) for a discussion of recent trends in unemployment and job vacancy rates, and what they imply for structural unemployment.

[17] See Reinhart and Rogoff (2009) for a discussion of how recessions brought on by financial market turmoil generates persistent unemployment over time. Forecasts of unemployment rates over the next decade have been generated by the Congressional Budget Office (2010).

We have no way to forecast future trends; but unfortunately, the late 1990s now look more like the anomalous period, while the period 2000-2007 more likely reflects the secular trends to which we will return. For instance, we have no reason to believe that the forces generating limited labor demand in the last decade – including technological changes and growing globalization – will have very different effects in the coming decade.[18] Productivity growth will hopefully remain strong, though that is not certain; and, even if it does, much of it may not show up in many workers' paychecks. Other drains on earnings growth, such as rising health care costs, show little sign of abatement, while the future trends in executive and financial manager compensation (which shifted so much compensation to the top 10 percent and especially the top 1 percent of workers) remain quite unclear.

With such an uncertain forecast for both the near-term and longer-term, how should labor-market policy respond? At a minimum, extensions of unemployment insurance payments (as well as food stamps and Medicaid) need to remain in effect while the aggregate unemployment rate remains so high. Fears that such extensions will discourage job search and reemployment might make sense in an economy with tight labor markets and significant job availability, but not in a market with so much slack.[19] Reemployment services that better help match these workers to existing jobs and provide them with necessary assistance with job search or skills training should be considered as well.

Over the longer term, and even in a generally weak labor market, there remains a strong case for improving the educational outcomes of workers. These outcomes should include certificates and degrees at two-year schools (i.e., community and technical colleges) as well as those at four-year colleges and universities. Though earnings growth in the 2000s was modest even for college graduates, the enormous and sometimes growing gaps in earnings between more- and less-educated workers suggest great scope for improving earnings and for dampening inequality if more of them could have such credentials. And this means not only improving the access of many Americans to the full range of colleges, but also raising rates of completion of degrees and certificates there.[20]

Of course, what happens in the labor markets depends not only on the quality of workers and their skills, but also on the quality of jobs created by employers. On a more positive note, and contrary to many popular accounts, the U.S. labor market continues to create many millions of high-quality jobs (Holzer et al. 2011); but, in contrast to jobs in previous generations, these jobs increasingly require workers who have good basic skills and educational credentials.[21] From a policy point of view, it is therefore important that the skills obtained by workers match the areas of the labor market where demand is strongest, and that we give them the credentials sought by employers in well-paying jobs. Potential workers need more career guidance from workforce development systems on where labor-market demand is strong, and employers need to be engaged in the process of generating workers'

[18] See Freeman (2007a) and Blinder (2007) for pessimistic accounts of how global forces will affect workers in the coming decade.

[19] Recent evidence suggesting that unemployment insurance only modestly affects job search and unemployment rates can be found in Card et al. (2007).

[20] See Goldin and Katz op. cit. for a discussion of how rising rates of college completion might help dampen inequality, and Haskins et al. (2009) for a discussion of how college completion rates can be improved, especially among lower-to middle-income Americans.

[21] In this study, the quality of a job is distinguished from the quality of workers by whether or not the firm pays a wage premium greater than what the worker usually obtains in others jobs in the labor market. With longitudinal earnings data over many years for both workers and firms, the authors were able to estimate "worker effects" and "firm effects" where the latter reflect job quality.

skills to fill their available jobs, through "sectoral" training programs, apprenticeships, and other kinds of incumbent worker training.[22]

Also, we need to encourage the creation of more good-paying jobs by employers, as well as the skills of workers to fill them. Historically, we have used legal and institutional methods like higher minimum wages and collective bargaining to do so. While we continue to believe these institutions play important roles in the labor market, we also believe that their ability to raise private sector wages is considerably lower than in earlier eras.[23] Thus, efforts to induce employers to create more good-paying jobs might have to rely more on "carrots," such as subsidies and technical assistance related to broader economic development efforts, and less on "sticks" than in the past.[24]

And, for those workers whose education and skills remain limited and who face only the prospects of employment at low wages, other forms of income supplementation may need to be considered. For instance, the Earned Income Tax Credit (EITC) from the federal government currently enhances the earnings of low-income parents with two or more children by as much as 40 percent; but childless adults and non-custodial parents paying child support benefit little from the current system. Expanding federal EITC eligibility, and enhancing payments to these currently underserved groups, are ways in which earnings can be supplemented and inequality reduced even in a labor market generating flat earnings growth and enormous gaps between the highest- and lowest-paid workers.[25]

[22] See Furchtgott-Roth et al. (2010) for a discussion of how improvements in the attainment of degrees and certificates, especially at community colleges, can improve economic mobility for disadvantaged Americans, and also on the need to make sure that such certifications are linked to trends in labor-market demand. See Maguire et al. (2010) for recent evidence on sectoral training programs and Kemple (2008) for evidence on the success of Career Academies. Lerman (2007) also discusses the potential of career education to improve labor-market outcomes for disadvantaged youth.

[23] The fractions of private-sector workers covered either by federal minimum wages or collective bargaining are both very low: for the latter, less than 7 percent of workers are now covered, while the fraction covered by the former depends on the statutory minimum relative to the median market wage at any time but is always less than 10 and often less than 5 percent. In addition, when labor and product markets become more competitive, as they no doubt have in recent decades, the ability of these institutions to raise wages without creating job losses diminishes as well, unless the higher wages are offset by higher worker productivity.

[24] See Holzer et al. (2011) for a review of such efforts, including tax credits for incumbent worker training, technical assistance for firms trying to improve worker promotion possibilities, and the like.

[25] See Edelman et al. (2009) for a discussion of how the Earned Income Tax Credit might be expanded to improve coverage of low-income childless adults and especially non-custodial fathers paying child support.

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Data Appendix

We analyzed data from the Current Population Survey (CPS), a monthly survey of about 50,000 households conducted by the Census Bureau and the Bureau of Labor Statistics, to calculate all labor market statistics. We used CPS data sets provided by the Unicon Research Corporation and by the Center for Economic and Policy Research in Washington, D.C.

Annual earnings figures were obtained from the Annual Social and Economic Supplement (the "March supplement") of the CPS. Hourly wages, employment-population ratios, as well as unemployment rates and durations come from the Outgoing Rotation Groups (ORGs) of the CPS's monthly Earner Study. We relied on a crosswalk from the Integrated Public Use Microdata Series (IPUMS-USA), published by the University of Minnesota, to classify occupations consistently across the years in our study.

To express annual earnings and hourly wages in real 2009 dollars, we deflated nominal wage and earning figures using the chain-weighted Personal Consumption Expenditures (PCE) version of the Gross Domestic Product (GDP) Deflator, constructed by the Bureau of Economic Analysis.

Our sample is limited to individuals between the ages of 16 and 69, and excludes full-time students, self-employed workers, and individuals employed in the agriculture, military and farming industries.

To reduce the influence of extreme outliers, calculations of mean annual earnings and hourly wages are restricted to individuals who earn, in 2009 dollars, between $2 and $5,000 per hour, and between $1,000 and $10 million per year.

To preserve the confidentiality of survey respondents, the U.S. Census Bureau top-codes high incomes and earnings: Values that exceed specified levels are reported at specified top-coded levels. To adjust annual earnings for top-coding, we used a cell mean series, created by Larrimore et al. (2008), that provides the mean of all income values above the top-code for individuals in the public use Annual Social and Economic Supplement of the CPS. For hourly wages, we applied a log-normal imputation to adjust top-coded values from the Outgoing Rotation Groups of the monthly CPS Earner Study, as proposed by Schmitt (2003).