

# Non Farm Payroll Employment Developments among States during the Great Recession and Jobless Recovery

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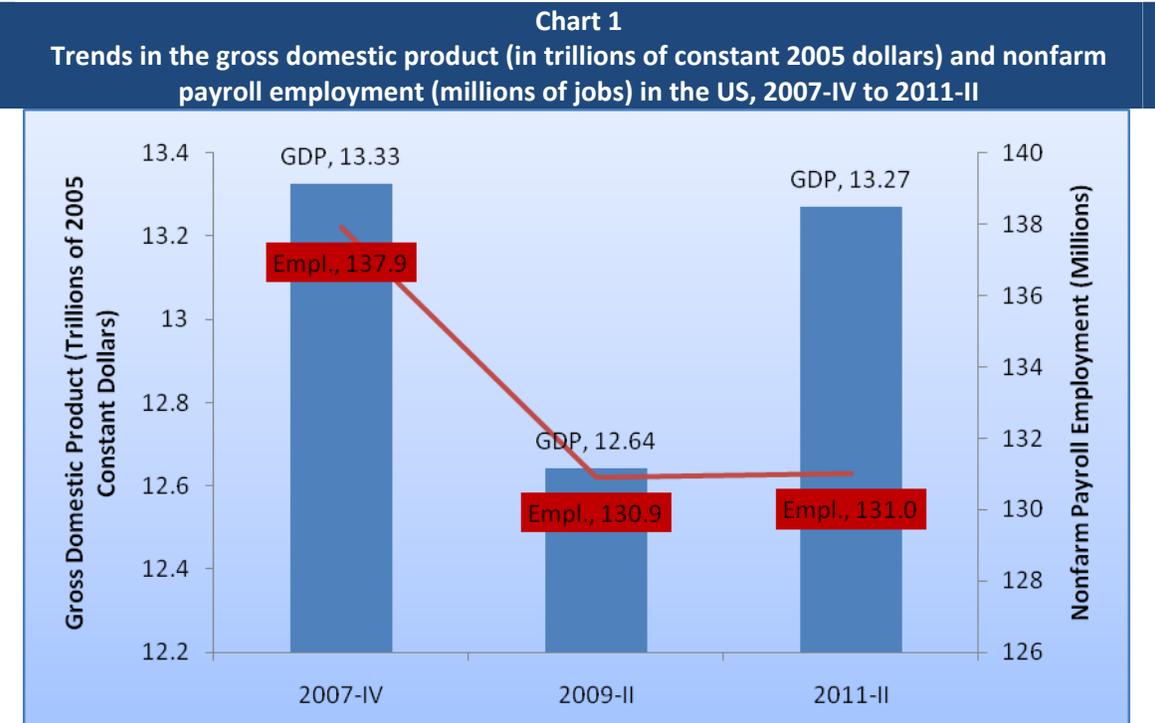
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# Introduction

The American economy has experienced enormous turbulence in its financial markets, product markets and labor markets that began at the end of 2007 with the onset of what has now become known as the Great Recession. The economic downturn that began in December 2007 continued for the next 18 months until June 2009. During that time the real (inflation-adjusted) value of the nation’s Gross Domestic Product (GDP) fell by \$690 billion or about 5.2 percent. During the same time payroll employment levels fell from 137.9 million to 130.9 million jobs, representing a 5 percent decline in the number of jobs in the American economy. While GDP and payroll employment declined in approximate proportion over the course of the downturn (4.1 percent decline in output and 5 percent decline in jobs) this was not the case during the economic recovery. By the second quarter of 2011 total output in the nation had nearly rebounded to its pre-recession level reaching \$13.27 trillion by 2011-II. This rebound in output saw GDP increase by \$630 billion representing a 5 percent increase in the real value of GDP over the two-year recovery; leaving GDP just \$60 billion below the pre-recession peak.



Sources: GDP data were obtained from the Bureau of Economic Analysis, U.S. Department of Commerce. July 28, 2011 ([www.bea.gov/national/index.htm](http://www.bea.gov/national/index.htm)) Data on Nonfarm payroll employment were downloaded from the BLS website on July 28, 2011 ([www.bls.gov/data/#employment](http://www.bls.gov/data/#employment)); tabulations by Drexel University, Center for Labor Markets and Policy.

As GDP recovered, the nation's job market failed to rebound. Total non agricultural payroll employment levels essentially remained unchanged after the trough of the recession through the second quarter of 2011, despite the rebound in national GDP and in the nation's equity markets. By 2011-II the total number of jobs in the American economy was about 100,000 above the 2009-II recession trough. American firms adjusted to the GDP sales losses from the Great Recession by slashing payrolls at a pace greater than the decline in output that led to large gains in labor productivity.<sup>1</sup> Most of these gains went to corporate profits, so that workers were largely excluded from the benefits of the recovery.<sup>2</sup> Thus, the U.S. has experienced a jobless recovery over the past two years.

This paper accompanies a set of data on non-farm payroll developments available on the NAWB website. These data track employment developments across states and regions of the country over the course of the Great Recession and subsequent economic recovery through the second quarter of 2011. The NAWB site provides information on payroll employment developments by major industry for each state and for 8 U.S. Bureau of Labor Statistics (BLS) regions of the nation. The data used in this analysis are derived from the BLS's Current Employment Statistics (CES) survey program, a joint federal-state monthly survey of business establishments conducted by BLS and state Labor Market Information units.

The CES program measures the count of payroll jobs at the national, state and selected sub state areas each month. The survey includes workers who are on a firm's payroll and thus are subject to withholding of payroll taxes under the Social Security Act. Excluded from these counts of jobs are household workers such as domestic servants as well as unincorporated self employed workers, unpaid volunteers and family workers, and farm workers. Government employees are included in the CES except those involved in national security and the military. The CES employment data are the primary measure of both the level and trends in employment in the U.S. BLS and state LMI units publish data on a monthly basis on payroll employment developments on a seasonally adjusted basis. The seasonal adjustment is designed to account for

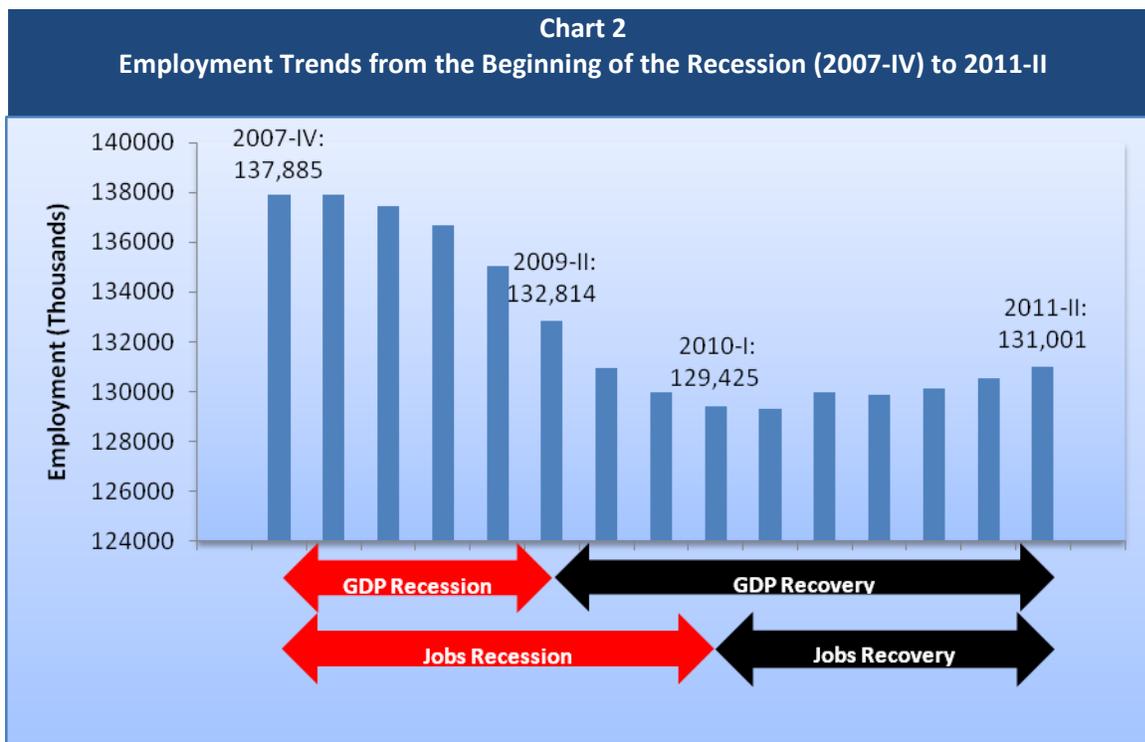
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<sup>1</sup> In contrast firms in the United Kingdom adjusted through a greater wage reduction, and a smaller job reduction: See: Bill Martin, *Rebalancing in the Dark*, Centre for Business Research, University of Cambridge, July, 201; (available at <http://www.cbr.cam.ac.uk/pdf/RebalancingInTheDark.pdf>)

<sup>2</sup> Andrew Sum, et al., The "Jobless and Wageless" Recovery from the Great Recession of 2007-2009: The Magnitude and Sources of Economic Growth Through 2011-I and Their Impacts on Workers, Profits, and Stock Values, Center for Labor Market Studies, Northeastern University, May 2011 (also available at [http://www.clms.neu.edu/publication/documents/Revised\\_Corporate\\_Report\\_May\\_27th.pdf](http://www.clms.neu.edu/publication/documents/Revised_Corporate_Report_May_27th.pdf))

regular fluctuations in employment that occur over different periods of the year. The seasonally adjusted data are thus designed to measure changes in employment at the national, state and local level caused by economic growth and decline. Each month about 440,000 business establishments who file unemployment insurance tax reports are included in the CES sample. The monthly survey respondents covers about one-third of all non-farm payroll employment in the nation.<sup>3</sup>

State data are provided for four distinct periods of time for most major industry sectors. The first time period covers the period of the fourth quarter of 2007 through the second quarter of 2009, the official end of the recession according to the National Bureau of Economic Research, an organization that is responsible for dating business cycles in the American economy. We refer to this period of time as the GDP recession, which includes that period of time in which we experienced 6 consecutive quarters of decline in Gross Domestic Product. The second time period covers the period from 2009-II (the GDP trough) through 2011-II, the GDP recovery period. These data measure employment change over the entire period of the official recovery, from the 2009-II to 2011-II.



<sup>3</sup> Handbook of Labor Statistics, Chapter 2. Employment, Hours and Earnings from the Establishment Survey, U.S. Bureau of Labor Statistics, 2011. <http://www.bls.gov/opub/hom/pdf/homch2.pdf>

In addition to these measures of payroll employment change over the official (or GDP) business cycle we have added two additional measures that instead of reflecting economic peaks and troughs with GDP instead rely on the measure of payroll employment. We include these measures because the period of job loss was two quarters longer than the period of GDP loss. While GDP hit bottom in 2009 II, payroll employment levels didn't reach their bottom until 2010-I, so the period of job loss is longer and the jobs recovery period is shorter compared to the corresponding loss and recovery periods of the GDP measure.

## **Regional and State Job Loss during the Great GDP Recession- 2007-IV to 2009- II**

Previous economic downturns have been characterized by specific industry/geographic concentrations of job loss, with some states experiencing sharp job losses while other states were able to expand their payroll employment levels despite declines in output and employment nationally.<sup>4</sup> In contrast, job losses in the Great Recession were substantial in every region of the nation and in every state except North Dakota and Alaska. The findings provided in Table 1 examine data on payroll employment developments across regions of the nation during the 18 month GDP recession (2007-IV to 2009-II.)

The data reveal that each major region of the nation experienced very sharp employment declines over the course of the Great Recession. The West region saw payroll employment levels fall by 1.76 million or 6.9 percent. Four of the ten states with the largest employment decline in the nation were located in the west including Nevada (-10.9 percent of pre-recession employment) Arizona (-9.2 percent) California (-6.9 percent) and Oregon (-7.1 percent). The southeast region also posted well above average job losses during the official downturn with payrolls falling by 6.9 percent over the period. Three states in the southeast region, Florida (-8.8 percent) South Carolina (-6.6 percent) and Georgia (-6.2 percent) were also among the top ten states with respect to the pace of job loss during the 18 month recession.

The more energy rich southwest region experienced the least amount of job loss of any major geographic section of the nation during the course of the GDP downturn. Payroll

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<sup>4</sup> Neeta P. Fogg and Paul E. Harrington, *Some Impacts of the National Economic Crisis on the Massachusetts Labor Market*, Commonwealth Corporation, June 2009

Table 1 Total Non Farm Employment, 2007 IV Quarter - 2009 II Quarter (Data in Thousands, Seasonally Adjusted)				
Region	2007 IV Quarter Average	2009 II Quarter Average	Absolute Change	Relative Change
New England	7,059.57	6,793.93	-265.63	-3.8%
New York–New Jersey	13,928.80	13,460.87	-467.93	-3.4%
Mid–Atlantic	14,080.57	13,652.77	-427.80	-3.0%
Southeast	26,067.97	24,266.80	-1,801.17	-6.9%
Midwest	27,550.30	26,009.90	-1,540.40	-5.6%
Southwest	16,072.67	15,742.93	-329.73	-2.1%
Mountain–Plains	8,534.67	8,193.67	-341.00	-4.0%
West	25,450.33	23,687.87	-1,762.47	-6.9%

employment levels in this five state region fell by an average of 2.1 percent between 2007-IV and 2009-II. Texas, by far the largest state in the region, saw payroll employment decline by 1.8 percent over the period, about one half the pace of job loss in the nation as a whole. New Mexico was the only state in the region to experience job losses that approximated the national pace of payroll decline with that state losing about 4.1 percent of its pre-recession payroll employment level over the period. Detailed data on employment developments in individual states and for specific industry sectors within each state over this time period can be accessed using the NAWB data utility found at [\(put link here\)](#).

## Regional and State Job Loss during the Great *Jobs* Recession- 2007-IV to 2009- II

While the national economy, as measured by real Gross Domestic Product, (a measure of the value of output produced in the nation) began to recover, the employment levels among the nation’s non agricultural business establishments continued to decline. Indeed between the end of the *GDP* recession in 2009 II and the end of the *Jobs* recession in 2010 I, employment levels in the nation declined by an additional 1.6 million jobs. The pace of decline in payroll employment losses varied considerably across regions in the early stages of the GDP recovery. The West region saw employment fall by an additional 444,000 jobs between 2009-II and 2010-I adding an additional 1.8 percent decline in jobs from the pre-recession peak. The Mountain-Plains and Southeast regions also experienced above average rates of employment decline during

the early stages of the GDP recovery with additional percentage point declines of 1.5 and 1.3, respectively.

<b>Table 2</b> <b>Net Job Losses by Region, 2009 II to 2010 I</b> <b>(Data in Thousands, Seasonally Adjusted)</b>		
Region	Job Losses between 2009 II and 2010 I	Additional Percentage Points of Job Loss
New England	-52.30	-0.7%
New York–New Jersey	-112.67	-0.8%
Mid–Atlantic	-117.83	-0.8%
Southeast	-350.43	-1.3%
Midwest	-269.07	-1.0%
Southwest	-142.60	-0.9%
Mountain–Plains	-128.00	-1.5%
West	-448.37	-1.8%

The findings in Table 3 examine trends in non-farm payroll employment in the nation over the entire period of the jobs recession, from 2007 IV to 2010 I, representing a period of 9 consecutive quarters of net employment decline in the nation. These data reveal that job losses continued across the nation through the beginning of 2010, despite the GDP recovery that began in the second half of 2009. These data reveal that the level of job losses resulting from the economic crisis was quite substantial and considerably deeper than the decline measured just over the period of GDP decline. The data reveal that over the nine quarters of jobs loss, two regions of the nation lost more than 8 percent of their pre-economic crisis employment base. The West region lost 2.2 million jobs between 2007 IV and 2010 I, a decline of 8.7 percent representing an enormous reduction in employment levels in the region. Nevada payroll employment levels led the nation in decline, after several decades of strong growth, losing 13.3 percent of its 2007 IV employment base by 2010 I. Similarly, Arizona posted double digit employment losses (11.1 percent) over the course of the jobs recession. The Southeast region lost 2.15 million jobs over the nine quarters, representing a relative decline of 8.3 percent. Losses were especially large in Florida, where 1 in 10 jobs were lost during the downturn. Payroll employment levels in Georgia fell by 8.1 percent with similarly large losses in both North Carolina and South Carolina.

Table 3 Total Non Farm Employment, 2007 IV Quarter - 2010 I Quarter (Data in Thousands, Seasonally Adjusted)				
Region	2007 IV Quarter Average	2010 I Quarter Average	Absolute Change	Relative Change
New England	7,059.57	6,741.63	-317.93	-4.5%
New York–New Jersey	13,928.80	13,348.20	-580.60	-4.2%
Mid–Atlantic	14,080.57	13,534.93	-545.63	-3.9%
Southeast	26,067.97	23,916.37	-2,151.60	-8.3%
Midwest	27,550.30	25,740.83	-1,809.47	-6.6%
Southwest	16,072.67	15,600.33	-472.33	-2.9%
Mountain–Plains	8,534.67	8,065.67	-469.00	-5.5%
West	25,450.33	23,239.50	-2,210.83	-8.7%

Both the West and Southeast regions experienced payroll employment declines that were two times greater than the losses observed in the Northeast (including New England, New York and New Jersey and the Middle Atlantic states) and three times greater than the losses incurred by states in the Southwest region. It is important to note that despite these large differences in the pace of job losses across regions and states that, with the exception of Alaska and the District of Columbia, every state in the nation experienced severe relative job losses. These losses resulted in a sharp reduction in the pace of geographic mobility across states and regions. Large job declines occurring simultaneously in every state are quite unusual in post war recessions. In the current crisis these widespread and substantial losses have resulted in reduced geographic mobility as job seekers who might consider moving to another state or region to find work are confronted with substantially diminished employment opportunities in virtually every state in the nation.<sup>5</sup> Detailed data on employment developments in individual states and for specific industry sectors within each state over this time period can be identified using the NAWB data utility found at [\(put link here\)](#).

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<sup>5</sup> Neeta P Fogg and Paul E. Harrington, *Some Impacts of the National Economic Crisis on the Massachusetts Labor Market*, Commonwealth Corporation, Boston, MA, June 2009 and Alison Dickson, Neeta Fogg and Paul Harrington, *Job Losses and the Reduction in Geographic Mobility across States: Gaining Insight into the Structural Versus Deficient Demand Debate on Unemployment*, Center for Labor Markets and Policy, Drexel University, Philadelphia PA forthcoming.

## Regional and State Payroll Employment Trends over the *GDP* Recovery Period

Since the end of the official GDP recession in 2009 II the nation has struggled to generate new employment opportunities. As we noted at the outset of this paper, despite a rebound in GDP to near pre-recession levels of output, the nation’s payroll employment levels over the next two years barely changed from the levels reached at the trough of the GDP recession. The findings in Table 4 reveal that over the past two years most regions of the nation have been unable to increase their payroll employment levels by even 1 percentage point, a very slow pace of job market recovery indeed.

The West and Southeast regions, hardest hit by the economic crisis, saw no net job creation over the two years following the official end of the recession. Employment in the West region declined by just 0.7 percent over the period, and the Southeast region experienced a net employment loss over the two year recovery period of -0.5 percent. The Mountain-Plains region also continued to lose jobs during the GDP recovery period. The only region in the nation able to increase employment by more than 1 percentage point from the recession trough level is the

Region	2009 II Quarter Average	2011 II Quarter Average	Absolute Change	Relative Change
New England	6,793.93	6,841.47	47.53	0.7%
New York–New Jersey	13,460.87	13,450.33	-10.53	-0.1%
Mid–Atlantic	13,652.77	13,729.20	76.43	0.6%
Southeast	24,266.80	24,141.83	-124.97	-0.5%
Midwest	26,009.90	26,144.90	135.00	0.5%
Southwest	15,742.93	16,009.53	266.60	1.7%
Mountain–Plains	8,193.67	8,129.50	-64.17	-0.8%
West	23,687.87	23,528.13	-159.73	-0.7%

Southwest that experienced a modest 1.7 percent increase in payroll employment levels over the last 8 quarters of GDP recovery. All of the net gain that occurred in the Southwest was concentrated in the state of Texas, where payroll employment levels increased by 2.4 percent. A total of 21 states still experienced net payroll employment losses over this period of GDP

recovery. Detailed data on employment developments in individual states and for specific industry sectors within each state over this time period can be identified using the NAWB data utility found at [\(put link here\)](#).

## Regional and State Payroll Employment Trends over the *Jobs Recovery Period*

We noted above that the duration of the GDP and Jobs recession differed in that the period of the Jobs recession as defined by months of continuous job loss lasted for 9 consecutive quarters, while the GDP recession lasted for 6 consecutive quarters. This means that the period of recovery to date will be shorter for the Jobs recovery compared to the GDP recovery and the base employment level at which the Jobs recovery begins is considerably lower than that the base employment level at which the GDP recovery began.

Table 5 Total Non Farm Employment, 2010 I Quarter - 2011 II Quarter (Data in Thousands, Seasonally Adjusted)				
State	2010 I Quarter Average	2011 II Quarter Average	Absolute Change	Relative Change
New England	6,741.63	6,841.47	99.83	1.5%
New York–New Jersey	13,348.20	13,450.33	102.13	0.8%
Mid–Atlantic	13,534.93	13,729.20	194.27	1.4%
Southeast	23,916.37	24,141.83	225.47	0.9%
Midwest	25,740.83	26,144.90	404.07	1.6%
Southwest	15,600.33	16,009.53	409.20	2.6%
Mountain–Plains	8,065.67	8,129.50	63.83	0.8%
West	23,239.50	23,528.13	288.63	1.2%

Since the end of the period of job loss in the national economy beginning in 2010 I, the U.S. as a whole has added about 1.8 million new non-farm payroll jobs through 2011 II, a rise of just 1.4 percent over the jobs recovery. Payroll employment gains have been strongest in the Southwest, again led by Texas, where employment increased by 409,000 a relative rise of 2.6 percent between 2010 I and 2011 II—a pace of growth that was double that of the nation. The Midwest, New England and the Mid Atlantic region all posted above average rates of payroll employment gains. Gains in the Northeast were strongest in Pennsylvania (+1.9 percent). In the

Midwest, Michigan posted a 1.9 percent increase in non-farm employment over the course of the jobs recovery. The Southeast and the West regions continued to lag the nation in net job creation. Oregon led the West with a gain of 1.9 percent, while Kentucky led the Southeast with a rise of 2.0 percent. Detailed data on employment developments in individual states and for specific industry sectors within each state over this time period can be identified using the NAWB data utility found at [\(put link here\)](#).

## **Net Payroll Employment Impact of the Economic Crisis through 2011-II**

The discussion above examined data on trends in payroll employment during the periods of GDP and jobs decline associated with the economic crisis and then examined employment developments during the respective periods of recovery. This section of the paper examines the net impact of the job losses and subsequent job recovery on the overall level of employment in regions and states in the nation between the pre-recession peak in 2007 IV and the current period (2011-II). As we noted at the beginning of the paper, through both the period of decline and recovery the number of non-farm jobs in the American economy remains 6.8 million below its pre-recession peak. Despite the fact that real GDP during 2011 II had nearly recovered to its pre-recession peak, large jobs deficits relative to the pre-recession peak exist in every region of the nation and nearly all states. Only Alaska and Texas were able to generate a net employment gain between 2007 IV and 2011 II and these gains were quite modest. States with large energy sectors performed the best with respect to generating new employment opportunities. North Dakota experienced surprisingly strong payroll employment growth adding 29,000, a rise of 8.1 percent. Alaska has added 8,800 in three in one half years growing by just 2.8 percent over the period while employment in the District of Columbia increased by 15,400 jobs or 2.2 percent over the same time period. Texas added just over 60,000 jobs since the pre-recession peak, a very small rise of just 0.6 percent since the end of 2007. The remaining states posted net job losses ranging from a slight net decline in Nebraska of -0.6 percent to a 13.4 percent loss in Nevada, nearly 11 percent loss in Arizona and over 9 percent in Florida.

Leading the nation's regions in net job loss over the entire business cycle to date is the West region where payroll employment levels are still 1.9 million or 7.6 percent below their pre-recession peak. Heavy losses in Arizona, California and Nevada account for much of the job loss in the region. Similarly, led by large losses in Florida, Georgia and the Carolinas the Southeast

region experienced a net job decline of 7.4 percent since 2007 IV. The Southwest region is the only section of the nation that has just a little ground to make up to return to pre-recession payroll employment levels.

Table 6 Total Non Farm Employment, 2007 IV Quarter - 2011 II Quarter (Data in Thousands, Seasonally Adjusted)				
State	2007 IV Quarter Average	2011 II Quarter Average	Absolute Change	Relative Change
New England	7,059.57	6,841.47	-218.10	-3.1%
New York–New Jersey	13,928.80	13,450.33	-478.47	-3.4%
Mid–Atlantic	14,080.57	13,729.20	-351.37	-2.5%
Southeast	26,067.97	24,141.83	-1,926.13	-7.4%
Midwest	27,550.30	26,144.90	-1,405.40	-5.1%
Southwest	16,072.67	16,009.53	-63.13	-0.4%
Mountain–Plains	8,534.67	8,129.50	-405.17	-4.7%
West	25,450.33	23,528.13	-1,922.20	-7.6%

The pace of payroll employment recovery across regions has been up to now quite slow. Over the past two economic recessions, the downturns of 1991 and 2001, new job creation was sluggish in the first two years of the recovery. But after this initial period of ‘near jobless’ recovery, the pace of new job growth accelerated in the nation. We might hope for such an outcome for the future given that the past two years of recovery have repeated the pattern of little new job creation as GDP rebounds. However, GDP growth for the first half of 2011 is below 1 percent on an annualized basis and recent productivity data suggests that the rapid growth in productivity that characterized the GDP recovery has come to an end and so real labor costs are rising. Given the emergence of new economic threats to the recovery from overseas and the apparent slowdown in economic activity in the U.S., the specter of a second economic recession in 2011-2012 has begun to emerge. Given this context, it is difficult to assign a strong chance that the pace of new job growth in the nation will accelerate in the next few years as was the case in the 1990s and 2000s. The chances of slow growth or even another recession seem more likely than a strong rebound, and in this context the prospects of a sharp increase in new job creation appears diminished.

We have developed hypothetical estimates of the length of time that it would take to recover all the net jobs lost between 2007 IV and 2011-II. We assume that regions will maintain

the pace of new job growth that they actually experienced during the jobs recovery between 2010 I and 2011- II, compare that to their current job deficit from their 2007 IV employment peak and then calculate the number of quarters that it would take for the region to return to its 2007 IV employment level. For example, the New England region has increased its payroll employment level by 20,000 jobs per quarter since 2010-I, but its current (2011-II) employment level is still 218,000 jobs below its 2007 IV level, this implies that it will take 11 quarters of job creation of 20,000 per quarter or until the beginning of 2014 for the region to return to its pre-recession peak employment level. The estimates of the length of time it will take to eliminate this measure of regional job deficit ranges from a low of just one quarter in the Southwest to 43 quarters, or more than 10 years in the Southeast.

<b>Table 7</b> <b>Expected Number of Quarters of Constant Job Growth Required to Return Regional Payroll Employment Counts to the Pre-Recession Levels</b> <b>(Data in Thousands, Seasonally Adjusted)</b>			
State	Mean Quarterly Job Gains by Region, 2010 I to 2011 II	Mean Net Job Deficit from Pre-recession Peak	Expected Number of Quarters To Erase Job Deficit
New England	20.0	-218.1	11
New York–New Jersey	20.4	-478.5	23
Mid–Atlantic	38.9	-351.4	9
Southeast	45.1	-1926.1	43
Midwest	80.8	-1405.4	17
Southwest	81.8	-63.1	1
Mountain–Plains	12.8	-405.2	32
West	57.7	-1922.2	33

It is important to note that eliminating the job deficit does not mean that a given region’s economy will experience similarly sharp reductions in unemployment and certainly does not imply that these regional economies will be operating at near full employment conditions when the job deficit is eliminated. First, it is important to note that the productive *potential* of the nation increases overtime as the size of the population and labor force (and potential labor force) increases, along with growth in physical productive capacity and abilities and skills of the workforce. The BLS labor force projections through 2018 estimate the nation’s civilian labor force to increase by 12.6 million or by 8.2 percent over ten years between 2008 and 2018 which

amounts to a projection of monthly average labor force increase of 105,200. Sharp reductions in unemployment to bring the economy to full-employment conditions requires not just enough job growth to reach to pre-recession levels of employment, but a much higher rate of job growth that will absorb the expected average monthly addition of 105,200 persons to the nation's labor force.