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Auber Fall Conference

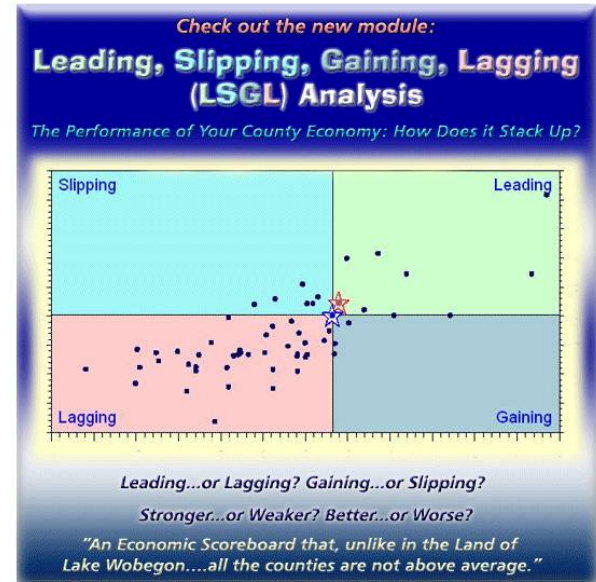


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An Introduction to LSGL Analysis:  
A Web-Based Tool for Calibrating  
and Classifying the Performance of  
State and Local Economies  
with...the "Click of a Mouse"



For Presentation at the  
63rd Annual AUBER Conference  
October 18th-20th, 2009  
Austin, Texas



Gary W. Smith, Director  
James Latham, Technical Director

*You are cordially invited to join...*

*Regional Analysis .....Without Paralysis*



*With the click ..... of a mouse!*

## **An Economic Scoreboard**



*“Unlike in the land of Lake Wobegon...*

*...all states are not above average”*



*in using and applying the*



PNREAP is a not for profit enterprise that is funded and made possible by annual subscriptions received from interested individuals and organizations to support the delivery of applied regional economic analysis and research for their region or state.

**What's Involved and How Can We Become a Host For Our State's Regional Economic Analysis Project?**

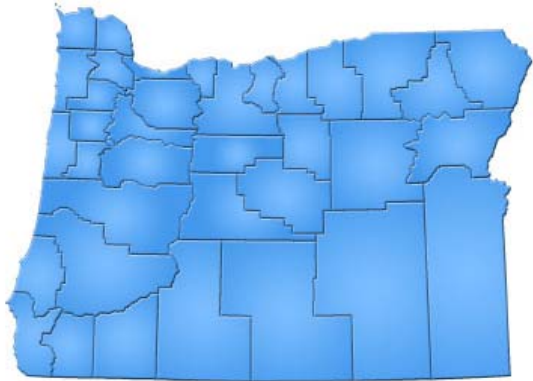
*Go to* <http://www.pnreap.org/faq/>

### A Note on Total Employment

Employment numbers remain the most popular and frequently cited statistics used for tracking local area economic conditions and trends. The *Bureau of Economic Analysis* employment estimates reported above measure the number of full- and part-time wage and salary employees, plus the number of proprietors of unincorporated businesses. People holding more than one job are counted in the employment estimates for each job they hold. This means BEA employment estimates represent a job count, not a people count. Also, BEA employment is by place-of-work, rather than by place-of-residence.

Other analytical tools are available to examine Employment in United States include:

- [Comparative Trends Trends Analysis of Total Employment](#)
- [Comparative Indicators](#)
- [Shift-Share Analysis](#)
- [Industry Structure & Performance](#)
- [LSGL Analysis of Employment](#)
- [Full & Part-Time Employment \(BEA CA25/N Data Tables\)](#)



### LSGL Analysis, 1998-2007

#### *The Performance of Your County Economy: How Does It Stack Up?*

*Leading...or Lagging? Gaining...or Slipping?*

*Stronger...or Weaker? Better...or Worse?*

Borrowing from an approach that sometimes appears in the finance sections of the popular press, LSGL analysis is a handy and versatile way to compare, portray and classify the patterns of total employment growth across all of Oregon's 36 counties.

Here, we adopt this approach to gauge and compare the total employment growth of Oregon's 36 counties over the past year (2007) against the backdrop of their growth over the past decade (1998-2007). In so doing we classify their growth and performance into 4 broad categories: Leading, Slipping, Gaining and Lagging. Particular attention is given to highlighting and assessing the growth of:

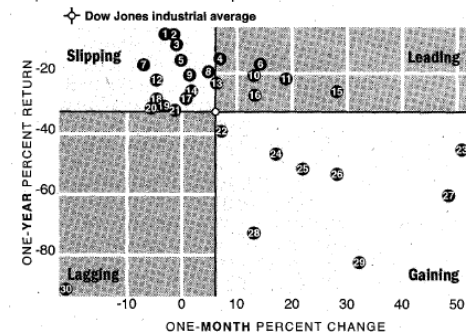
- [Employment](#)
- [Total Personal Income](#)
- [Total Industry Earnings](#)
- [Population](#)

## Leading-Slipping-Gaining-Lagging Analysis: Assessing Employment Growth Across States



### Dow30Stocks

The Dow enjoyed its eighth weekly gain over the past nine weeks, lifted by continued optimism that the worst of the recession may be over. Leading the pack were financial stocks, including Bank of America (BAC) and Citigroup (C). A government report showed 19 big lenders were in better shape than many had feared, with nine showing no need for additional capital to weather a worse-than-expected recession.



**Leading:** beat Dow for month and year. **Gaining:** beat Dow for month, trailed over year.  
**Lagging:** trailed Dow for month and year. **Slipping:** trailed Dow for month; beat over year.



## Introduction

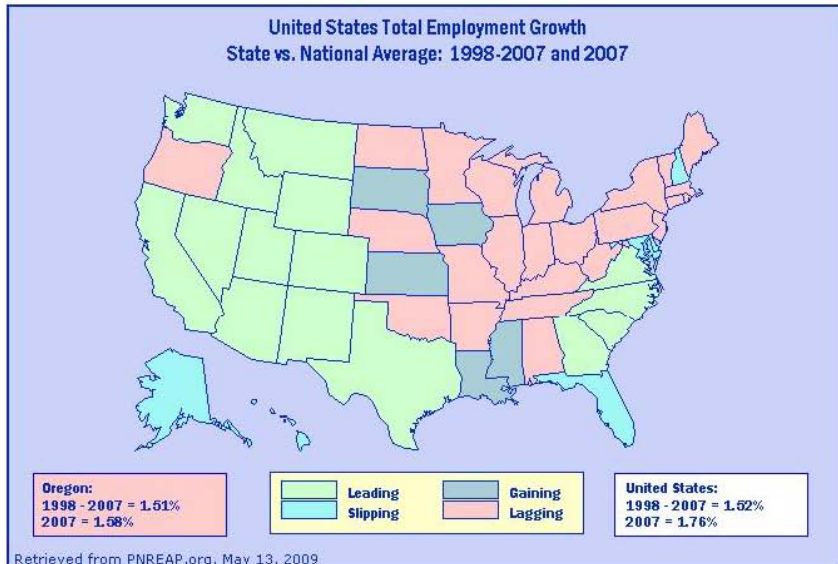


Figure 1.

Borrowing from an approach that sometimes appears in the finance sections of the popular press, LSGL analysis is a handy and versatile way to compare, portray and classify the patterns of total employment growth across all 51 states. In finance, this technique is used for comparing and assessing the market performance of individual securities or across industry sectors. For example, the performance of the 30 stocks contained within Dow are compared with one another over the past week in contrast to their performance over the past month using the Dow's respective averages as the points of reference.

Here in this *United States Regional Economic Analysis Project* report, we adopt this approach to gauge and compare the total employment growth of the 51 states over the past year (2007) against the backdrop of their growth over the past decade (1998-2007). In so doing we classify their growth and performance into 4 broad categories: *Leading*, *Slipping*, *Gaining* and *Lagging*. Particular attention is given to highlighting and assessing the employment growth of Oregon.

### Highlights of Results: Oregon is Classified Among those States Whose Employment Growth was *Lagging* in 2007

Oregon's total employment growth rate of 1.51% trailed United States' overall average of 1.52% over 1998-2007, and its 1.58% growth rate also trailed the nationwide average of 1.76% over 2007. Accordingly, Oregon is classified as "*Lagging*" in that its employment growth recorded below the United States average in 2007 and its longer-term average fell below that of the average nationwide over 1998-2007.

## United States Total Employment Growth State vs. Nationwide Average, 1998-2007

### Gaining

| State         | 1998-2007 |         | 2007 |         |
|---------------|-----------|---------|------|---------|
|               | Rank      | Percent | Rank | Percent |
| South Dakota  | 23        | 1.48    | 15   | 2.44    |
| Mississippi   | 40        | 0.98    | 13   | 2.46    |
| Kansas        | 42        | 0.97    | 20   | 1.88    |
| Iowa          | 43        | 0.95    | 19   | 1.89    |
| Louisiana     | 46        | 0.89    | 4    | 3.38    |
| United States |           | 1.52    |      | 1.76    |

### Lagging

| State                | 1998-2007 |         | 2007 |         |
|----------------------|-----------|---------|------|---------|
|                      | Rank      | Percent | Rank | Percent |
| Oregon               | 22        | 1.51    | 24   | 1.58    |
| New Jersey           | 24        | 1.44    | 41   | 0.78    |
| Tennessee            | 25        | 1.32    | 29   | 1.27    |
| Vermont              | 26        | 1.31    | 49   | 0.16    |
| Minnesota            | 27        | 1.31    | 42   | 0.70    |
| District of Columbia | 28        | 1.28    | 36   | 1.01    |
| Maine                | 29        | 1.26    | 46   | 0.31    |
| Oklahoma             | 30        | 1.26    | 22   | 1.71    |
| North Dakota         | 31        | 1.20    | 28   | 1.34    |
| New York             | 32        | 1.18    | 27   | 1.45    |
| Alabama              | 33        | 1.16    | 25   | 1.57    |
| Arkansas             | 34        | 1.13    | 37   | 1.00    |
| Rhode Island         | 35        | 1.13    | 47   | 0.27    |
| Nebraska             | 36        | 1.09    | 23   | 1.61    |
| Connecticut          | 37        | 1.05    | 32   | 1.12    |
| Wisconsin            | 38        | 1.03    | 45   | 0.46    |
| Kentucky             | 39        | 1.03    | 35   | 1.07    |
| Pennsylvania         | 41        | 0.98    | 39   | 0.96    |
| Massachusetts        | 44        | 0.92    | 34   | 1.09    |
| Missouri             | 45        | 0.90    | 40   | 0.87    |
| Illinois             | 47        | 0.80    | 38   | 0.97    |
| West Virginia        | 48        | 0.66    | 44   | 0.52    |
| Indiana              | 49        | 0.65    | 43   | 0.59    |
| Ohio                 | 50        | 0.44    | 50   | 0.14    |
| Michigan             | 51        | 0.18    | 51   | -0.70   |
| United States        |           | 1.52    |      | 1.76    |

**United States Total Employment Growth  
State vs. Nationwide Average, 1998-2007**

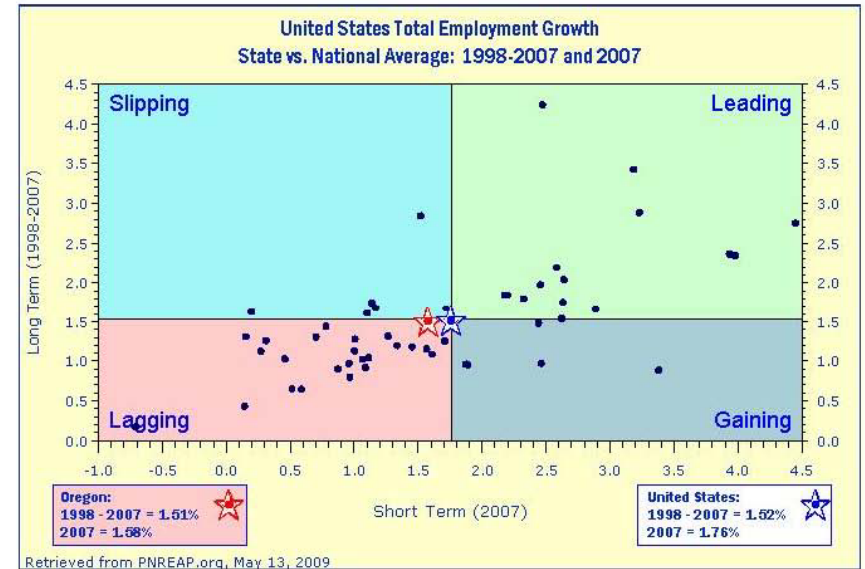
**Leading**

| State          | 1998-2007 |         | 2007 |         |
|----------------|-----------|---------|------|---------|
|                | Rank      | Percent | Rank | Percent |
| Nevada         | 1         | 4.24    | 12   | 2.47    |
| Arizona        | 2         | 3.43    | 6    | 3.19    |
| Idaho          | 3         | 2.89    | 5    | 3.23    |
| Utah           | 5         | 2.76    | 1    | 4.45    |
| Wyoming        | 6         | 2.37    | 3    | 3.94    |
| Texas          | 7         | 2.35    | 2    | 3.98    |
| Georgia        | 8         | 2.20    | 11   | 2.59    |
| Montana        | 9         | 2.04    | 8    | 2.64    |
| Colorado       | 10        | 1.98    | 14   | 2.46    |
| Virginia       | 11        | 1.85    | 18   | 2.18    |
| New Mexico     | 12        | 1.85    | 17   | 2.20    |
| California     | 13        | 1.80    | 16   | 2.33    |
| Washington     | 14        | 1.76    | 9    | 2.63    |
| North Carolina | 18        | 1.67    | 7    | 2.89    |
| South Carolina | 21        | 1.54    | 10   | 2.62    |
| United States  |           | 1.52    |      | 1.76    |

**Slipping**

| State         | 1998-2007 |         | 2007 |         |
|---------------|-----------|---------|------|---------|
|               | Rank      | Percent | Rank | Percent |
| Florida       | 4         | 2.85    | 26   | 1.52    |
| Maryland      | 15        | 1.75    | 31   | 1.14    |
| Alaska        | 16        | 1.68    | 30   | 1.17    |
| Hawaii        | 17        | 1.68    | 21   | 1.72    |
| New Hampshire | 19        | 1.63    | 48   | 0.20    |
| Delaware      | 20        | 1.61    | 33   | 1.10    |
| United States |           | 1.52    |      | 1.76    |

**Overview of LSGL Analysis**



**Figure 2.**

Figure 2 displays the 51 states as dots on a scattergram, with the vertical axis representing the average annual total employment growth rate over the past decade (1998-2007), and the horizontal axis representing the total employment growth rate for the near-term (2007).

Figure 2 sets apart those states whose long-term total employment growth exceeded the nationwide average of 1.52%, by portraying them in the top two quadrants demarcated at 1.52% on the vertical axis. States whose long-term average annual total employment growth rate trailed the nationwide average (1.52%) are distributed in the bottom two quadrants. In all, 21 states surpassed the nationwide average during the decade 1998-2007, while 30 states fell below.

Similarly, the two quadrants on the right of Figure 2 present the positions of the 20 states whose most recent (2007) total employment growth rate exceeded the nation average (1.76%). The two quadrants on the left feature those 31 states whose total employment growth over 2007 trailed the nationwide average.

## Overview of LSGL Analysis

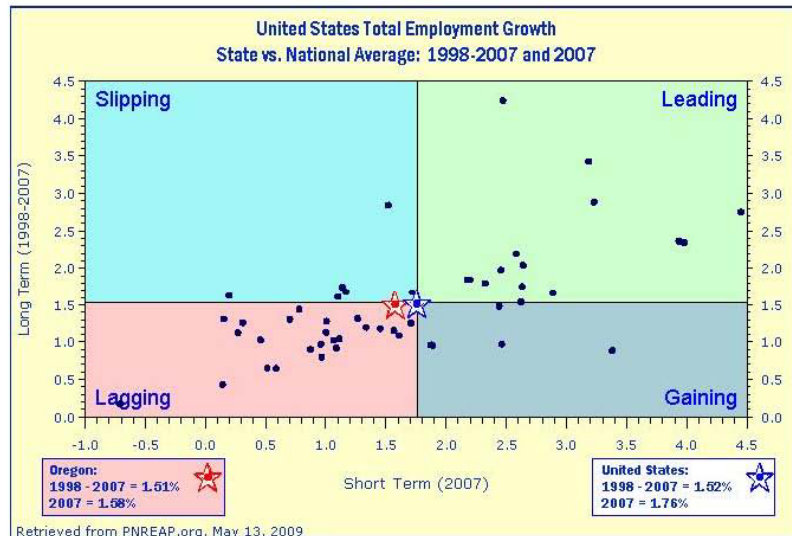


Figure 2.

Accordingly, each quadrant portrays the performance of all 51 states corresponding with their long-term (1998-2007) and near-term (2007) performance relative to their respective nationwide averages of 1.52% over 1998-2007 and 1.76% over 2007:

**Leading states** (top-right quadrant)...are states whose average annual total employment growth rate surpassed the nationwide average both long-term (1.52%) and near-term (1.76%).

**Slipping states** (top-left quadrant)...are states whose long-term average annual total employment growth rate exceeded the nationwide average (1.52%), but whose near-term growth has "slipped" by falling below the nation's average (1.76%).

**Gaining states** (bottom-right quadrant)...are states whose long-term average annual total employment growth rate fell below the nationwide average (1.52%), but whose near-term growth has "gained" by registering above the average (1.76%) nationwide.

**Lagging states** (bottom-left quadrant)...are states whose average annual total employment growth rate fell under the nationwide average both long-term (1.52%) and near-term (1.76%).

| Summary of United States' 51 State Totals |       |                    |       |    |
|---|-------|--------------------|-------|----|
|   |       | Short Term Average |       |    |
|   |       | Below              | Above |    |
| Long Term Average                         | Above | 6                  | 15    | 21 |
|   | Below | 25                 | 5     | 30 |
|   |       | 31                 | 20    | 51 |

## Recapping Oregon's Results

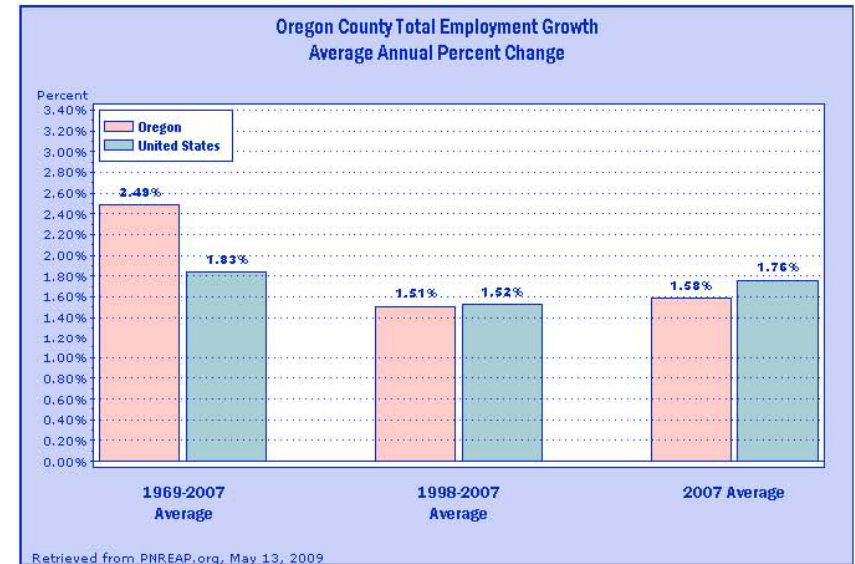


Figure 7.

### Recap of Results: Oregon is Classified Among those States Whose Total Employment Growth was Lagging in 2007

Oregon's total employment growth rate of 1.51% trailed the nationwide average of 1.52% over 1998-2007, and its 1.58% growth rate also trailed the nationwide average of 1.76% over 2007. Accordingly, Oregon is classified as "Lagging" in that its employment growth recorded below the nationwide average in 2007 and its longer-term average fell below that of the average nationwide over 1998-2007.

Oregon is among the 25 of 51 (49%) states whose total employment growth was classified as *Lagging* in 2007. In 2007, it ranked 24 out of the 51, over 1998-2007 it ranked 22.



## Lagging States

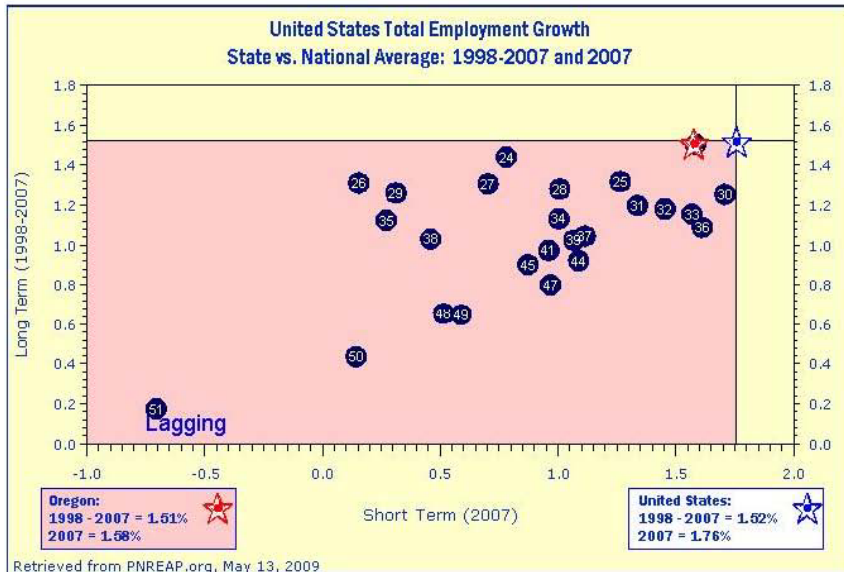


Figure 6.

Figure 6 depicts the distributions of the 25 states classified as *Lagging* (bottom-left quadrant). These states trailed the nationwide average annual total employment growth both long-term (1998-2007 = 1.52%) as well as near-term (2007 = 1.76%). Again, each state is identified by its corresponding ranking based on its average annual total employment growth rate over 1998-2007 as noted in the table just below.

49% of the states, 25 of 51, are characterized here as *Lagging*.

| State                | 1998-2007 |         | 2007 |         |
|----------------------|-----------|---------|------|---------|
|                      | Rank      | Percent | Rank | Percent |
| Oregon               | 22        | 1.51    | 24   | 1.58    |
| New Jersey           | 24        | 1.44    | 41   | 0.78    |
| Tennessee            | 25        | 1.32    | 29   | 1.27    |
| Vermont              | 26        | 1.31    | 49   | 0.16    |
| Minnesota            | 27        | 1.31    | 42   | 0.70    |
| District of Columbia | 28        | 1.28    | 36   | 1.01    |
| Maine                | 29        | 1.26    | 46   | 0.31    |
| Oklahoma             | 30        | 1.26    | 22   | 1.71    |
| North Dakota         | 31        | 1.20    | 28   | 1.34    |
| New York             | 32        | 1.18    | 27   | 1.45    |
| Alabama              | 33        | 1.16    | 25   | 1.67    |
| Arkansas             | 34        | 1.13    | 37   | 1.00    |
| Rhode Island         | 35        | 1.13    | 47   | 0.27    |
| Nebraska             | 36        | 1.09    | 23   | 1.61    |
| Connecticut          | 37        | 1.05    | 32   | 1.12    |
| Wisconsin            | 38        | 1.03    | 45   | 0.46    |
| Kentucky             | 39        | 1.03    | 35   | 1.07    |
| Pennsylvania         | 41        | 0.98    | 39   | 0.96    |
| Massachusetts        | 44        | 0.92    | 34   | 1.09    |
| Missouri             | 45        | 0.90    | 40   | 0.87    |
| Illinois             | 47        | 0.80    | 38   | 0.97    |
| West Virginia        | 48        | 0.66    | 44   | 0.52    |
| Indiana              | 49        | 0.65    | 43   | 0.59    |
| Ohio                 | 50        | 0.44    | 50   | 0.14    |
| Michigan             | 51        | 0.18    | 51   | -0.70   |
| United States        |           | 1.52    |      | 1.76    |

## Leading States

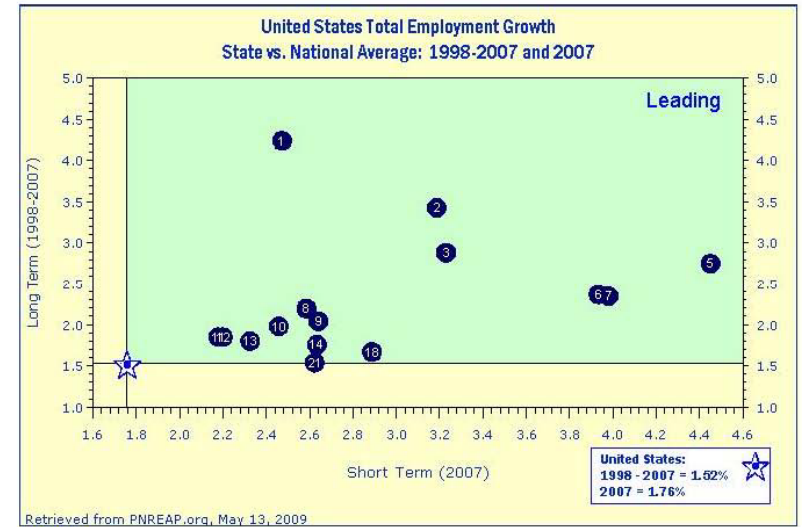


Figure 3.

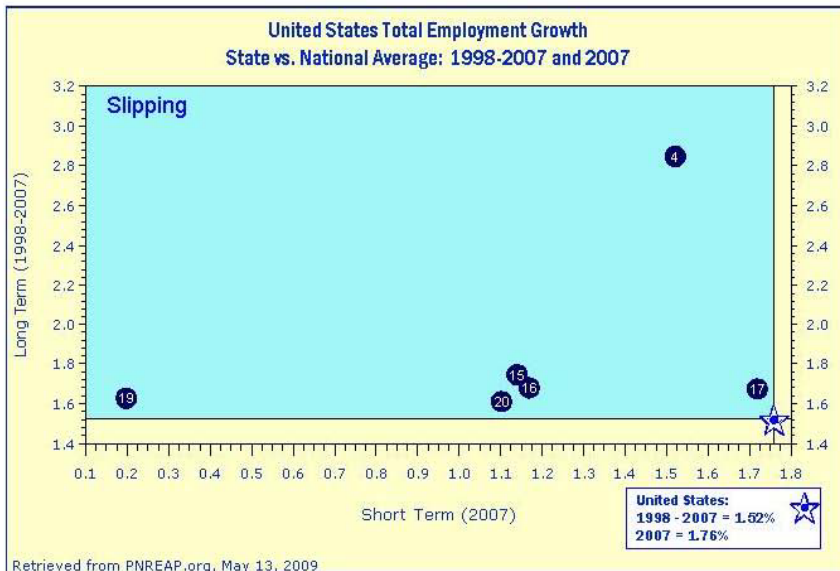
Turning attention to the top-right quadrant from the discussion above, Figure 3 features a display of the distribution of the states classified as *Leading*. These states surpassed the U.S. average annual total employment growth both long-term (1998-2007 = 1.52%) as well as near-term (2007 = 1.76%). Each is identified by its corresponding ranking based on its average annual total employment growth rate over 1998-2007 as noted in the table below.

Of the 51 states, 15 (29%) are classified within the *Leading* category.

**Note:** Should you wish to identify and feature the position of a particular state in the above graph, or in the 4-quadrant graph (Figure 2) introduced earlier, you may do so by clicking on its name in the table below.

| State          | 1998-2007 |         | 2007 |         |
|----------------|-----------|---------|------|---------|
|                | Rank      | Percent | Rank | Percent |
| Nevada         | 1         | 4.24    | 12   | 2.47    |
| Arizona        | 2         | 3.43    | 6    | 3.19    |
| Idaho          | 3         | 2.89    | 5    | 3.23    |
| Utah           | 5         | 2.76    | 1    | 4.45    |
| Wyoming        | 6         | 2.37    | 3    | 3.94    |
| Texas          | 7         | 2.35    | 2    | 3.98    |
| Georgia        | 8         | 2.20    | 11   | 2.59    |
| Montana        | 9         | 2.04    | 8    | 2.64    |
| Colorado       | 10        | 1.98    | 14   | 2.46    |
| Virginia       | 11        | 1.85    | 18   | 2.18    |
| New Mexico     | 12        | 1.85    | 17   | 2.20    |
| California     | 13        | 1.80    | 16   | 2.33    |
| Washington     | 14        | 1.76    | 9    | 2.63    |
| North Carolina | 18        | 1.67    | 7    | 2.89    |
| South Carolina | 21        | 1.54    | 10   | 2.62    |
| United States  |           | 1.52    |      | 1.76    |

### Slipping States



Retrieved from PNREAP.org, May 13, 2009

Figure 4.

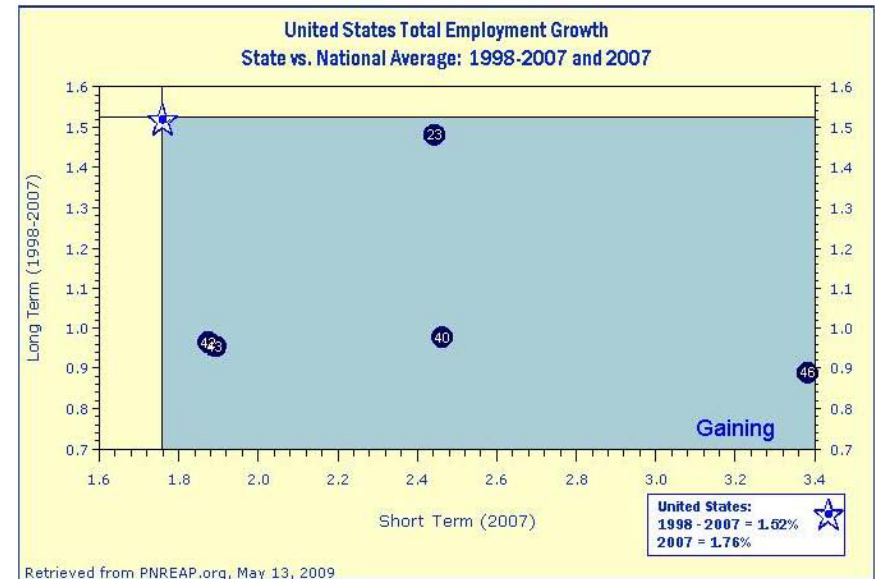
Figure 4 depicts the distribution of the 6 states classified as *Slipping* (top-left quadrant), in that their long-term average annual total employment growth rate outpaced the average nationwide (1998-2007 = 1.52%), while they trailed the nationwide average near-term (2007 = 1.76%). Again, each state is identified by its corresponding ranking based on its average annual total employment growth rate over 1998-2007 as noted in the table just below.

Only 6 (12%) of the 51 states are classified as *Slipping*.

**Note:** To identify and feature the position of a particular state in the above graph, or in the 4-quadrant graph (Figure 2) introduced earlier, you may do so by clicking on its name in the table below.

| State         | Slipping                  |                      |
|---------------|---------------------------|----------------------|
|               | 1998-2007<br>Rank Percent | 2007<br>Rank Percent |
| Florida       | 4 2.85                    | 26 1.52              |
| Maryland      | 15 1.75                   | 31 1.14              |
| Alaska        | 16 1.68                   | 30 1.17              |
| Hawaii        | 17 1.68                   | 21 1.72              |
| New Hampshire | 19 1.63                   | 48 0.20              |
| Delaware      | 20 1.61                   | 33 1.10              |
| United States | 1.52                      | 1.76                 |

### Gaining States



Retrieved from PNREAP.org, May 13, 2009

Figure 5.

Figure 5 shows the distribution of the 5 states classified as *Gaining* (bottom-right quadrant), in that their long-term average annual total employment growth rate posted below United States' average nationwide (1998-2007 = 1.52%), while they outpaced the nation's average near-term (2007 = 1.76%). Again, each state is identified by its corresponding ranking based on its average annual total employment growth rate over 1998-2007 as noted in the table just below.

Of the 51 states, only 10% (5) are featured as *Gaining*.

**Note:** To identify and feature the position of a particular state in the above graph, or in the 4-quadrant graph (Figure 2) introduced earlier, you may do so by clicking on its name in the table below.

| State         | Gaining                   |                      |
|---------------|---------------------------|----------------------|
|               | 1998-2007<br>Rank Percent | 2007<br>Rank Percent |
| South Dakota  | 23 1.48                   | 15 2.44              |
| Mississippi   | 40 0.98                   | 13 2.46              |
| Kansas        | 42 0.97                   | 20 1.88              |
| Iowa          | 43 0.95                   | 19 1.89              |
| Louisiana     | 46 0.89                   | 4 3.38               |
| United States | 1.52                      | 1.76                 |