

**SUPPLEMENT TO THE THIRD QUARTERLY REPORT ON  
THE ECONOMIC IMPACT OF THE AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009**

**IMPACT OF THE ARRA ON EMPLOYMENT BY STATE**

**Council of Economic Advisers**

**April 2010**

The CEA's third quarterly report on the impact of the American Recovery and Reinvestment Act (ARRA), released on April 14, 2010 (CEA 2010), found that the ARRA raised employment as of the first quarter of 2010 by between 2.2 million and 2.8 million jobs over what it would otherwise have been. There is obviously much interest in how these employment effects have been distributed across states. In this fact sheet, we attempt to provide a rough state-by-state breakdown for the effects of the entire ARRA. However, it is important to emphasize that these disaggregate estimates are inherently more speculative and uncertain.

Because there is no perfect way to measure state-level effects, we pursue three approaches to decomposing employment impacts across states. Our first method allocates jobs according to states' shares of national non-farm employment as of March 2009.<sup>1</sup> Georgia, for example, had 3.0 percent of all employment in the country in March 2009, so is allocated 3.0 percent of total job creation.

Our second method allocates jobs according to the distribution of Recovery Act outlays through March 31, 2010. Georgia has received 2.8 percent of total outlays, so is estimated to receive 2.8 percent of total job creation. This method provides a more direct measure of where ARRA impacts are likely to be felt than does the first method, but it has an important drawback. Only a portion of the overall Recovery Act stimulus is included in the outlays data. The most important stimulus not included in this approach is tax relief, which comprises over one-third of total spending plus tax cuts to date (CEA 2010). Tax cuts are likely more evenly distributed across states than are outlays, so our use of outlays likely overstates the unevenness of employment effects. Similarly, this method assumes that all of the employment effects of spending in a state are felt within the state. In fact, however, there are important spillovers across states. Thus again, this approach is likely to exaggerate the differences among states.

Our third method relies on the sectoral composition of employment in each state. We estimate the number of jobs created or saved in different industries using a methodology developed in our first quarterly report.<sup>2</sup> Specifically, we decompose the response of employment in each sector into two components. First, a rising overall level of employment tends to increase

---

<sup>1</sup> U.S. Department of Labor (2010). We use seasonally adjusted estimates of total nonfarm employment.

<sup>2</sup> See CEA (2009) for details.

employment in each industry in proportion to its share of the overall economy. We refer to this as the “rising tide” effect. Second, some sectors are more sensitive to the state of the business cycle than are others. The additional employment due to the Recovery Act has therefore almost certainly produced relative expansion of such procyclical sectors, while countercyclical sectors, such as utilities, health care, and government, have seen their shares of total employment shrink relative to what would have been seen in the absence of stimulus. We refer to the resulting changes in sectoral employment as the “cyclical effect.”

We then assume that any jobs saved or created in a particular industrial sector (for example, mining and logging) are distributed across states in the same way as are existing jobs in that sector.<sup>3</sup> Georgia has only 1.4 percent of national employment in mining and logging, so is assumed to receive only 1.4 percent of employment effects in that industry. By contrast, Georgia has nearly one-quarter of national textile product mill employment, so any employment impacts in that industry are assigned disproportionately to Georgia. Summing across 42 industries, we obtain the total impact on Georgia employment.<sup>4</sup> The procedure is repeated for each state to obtain the distribution across states.

None of these three approaches does a perfect job of measuring the geographic distribution of employment effects, and each has advantages and disadvantages relative to the others. Thus, to obtain a reasonable estimate of state-level job impacts, we average the three approaches. This average indicates that the ARRA has saved or created roughly 84,000 jobs in Georgia, 3.0 percent of the national total. Estimates for all fifty states, plus the District of Columbia, are reported in Table 1.

---

<sup>3</sup> Employment by state and industry is drawn from data published by the U.S. Department of Labor (2009, 2010). We use data from the March 2009 Current Employment Statistics to determine state employment shares and data from the 2008 Quarterly Census of Employment and Wages to determine state-by-industry employment. Because of limitations in the available data, some of the analysis here uses data beginning in 1990:Q2.

<sup>4</sup> For this analysis, we use a relatively detailed industry breakdown. Manufacturing is divided into 21 sectors (for example, fabricated metal products). Trade, transportation, and utilities are divided into four sectors (wholesale trade, retail trade, utilities, and transportation/warehousing); financial activities into two (finance/insurance, and real estate/rental/leasing); professional and business services into five (professional/technical services, management of companies, employment services, other administrative/support services, and waste management/remediation); education and health into two (educational services and health care/social assistance); leisure and hospitality into two (arts/entertainment/recreation and accommodation/food services). For data sources and methods used in the sectoral decomposition, see CEA (2009).

Table 1. Estimated Impact of the ARRA on Employment by State

State	Jobs Impact Thousands	State	Jobs Impact Thousands
Alabama	38	Montana	9
Alaska	6	Nebraska	16
Arizona	57	Nevada	27
Arkansas	24	New Hampshire	12
California	340	New Jersey	89
Colorado	46	New Mexico	16
Connecticut	36	New York	193
Delaware	8	North Carolina	84
District of Columbia	14	North Dakota	7
Florida	153	Ohio	108
Georgia	84	Oklahoma	32
Hawaii	11	Oregon	38
Idaho	13	Pennsylvania	120
Illinois	131	Rhode Island	11
Indiana	64	South Carolina	38
Iowa	31	South Dakota	7
Kansas	26	Tennessee	56
Kentucky	37	Texas	205
Louisiana	36	Utah	25
Maine	13	Vermont	7
Maryland	49	Virginia	66
Massachusetts	73	Washington	62
Michigan	96	West Virginia	14
Minnesota	56	Wisconsin	59
Mississippi	23	Wyoming	5
Missouri	55		

Source: CEA estimates based on data from the Current Employment Statistics and the Quarterly Census of Employment and Wages.

Notes: Entries sum to the estimated cumulative impact of policy on level in Table 3 of CEA 2010 (2,825,000 jobs impacted).

Of course, simply because their populations are larger, we estimate that larger states have seen larger jobs impacts. Similarly, because their employment is more cyclically sensitive, industrial states are estimated to have had larger employment effects relative to their populations. Finally, both because of their industrial composition and because state fiscal relief and aid to individuals directly impacted have been larger in states hit harder by the recession, we estimate that states with higher unemployment rates at the time of passage have seen larger employment effects of the ARRA relative to their populations.

The estimates in Table 1 are calibrated to add up to 2.8 million jobs, the estimated employment impact of the ARRA in 2010:Q1 according to the CEA Statistical Projection Approach (see Table 3 of the Third Quarterly Report, CEA 2010). This approach yields somewhat higher overall employment impacts than do other methods, and in our Quarterly Report we suggested that the employment impact likely lies between 2.2 million and 2.8 million. To the extent that the Statistical Projection Approach may overstate the aggregate impact somewhat, the estimates in Table 1 could similarly overstate the state-level impacts by a bit. But there is no reason to expect that this would lead to changes in the distribution of jobs impacts across states.

## REFERENCES

Executive Office of the President, Council of Economic Advisers. "The Economic Impact of the American Recovery and Reinvestment Act of 2009, First Quarterly Report." January 2009.

Executive Office of the President, Council of Economic Advisers. "The Economic Impact of the American Recovery and Reinvestment Act of 2010, Third Quarterly Report." April 2010.

U.S. Department of Labor. Bureau of Labor Statistics. "Quarterly Census of Employment and Wages." Accessed September 2009.

U.S. Department of Labor. Bureau of Labor Statistics. "Current Employment Statistics Survey: State Employment and Unemployment." Accessed April 2010.