View metadata, citation and similar papers at core.ac.uk

brought to you by CORE

provided by Research Papers in Economics

The Levy Economics Institute of Bard College

Special Report

June 12, 2009

Who Gains From President Obama's Stimulus Package . . . And How Much?

AJIT ZACHARIAS, THOMAS MASTERSON, and KIJONG KIM

President Barack Obama and his new administration inherited an economic mess that was quickly transforming into a deep economic malaise when he took office on January 20, 2009. With remarkable speed, the Obama administration managed to sign into law on February 19 a package of spending increases and tax cuts known as the American Recovery and Reinvestment Act (ARRA). According to the administration, ARRA will create or save approximately 3.5 million jobs by the end of 2010. The transfers and tax cuts included in the legislation are expected to provide relief to low-income and vulnerable households especially hurt by the economic crisis, while at the same time supporting aggregate demand.[1]

Our aim is to provide a *preliminary* assessment of ARRA in terms of its likely impact on median household income, gaps between advantaged and disadvantaged population subgroups, and income inequality. A central motivation for evaluating the Act from this particular standpoint was articulated quite poignantly by President Obama himself in his historic inauguration speech: "The success of our economy has always depended not just on the size of our gross domestic product, but on the reach of our prosperity; on the ability to extend opportunity to every willing heart—not out of charity, but because it is the surest route to our common good."[2]

Estimating Employment and Distributional Effects

Our strategy to assess the implications of the Recovery Act consists of three main steps: constructing a baseline scenario against which the effects of the Act can be assessed, estimating the increase in employment by industry and occupation, and simulating the accompanying effects of changes in earnings on the distribution of money income. (A fuller discussion of the model and findings can be found in Zacharias, Masterson, and Kim 2009.)

The baseline scenario of labor market conditions and distribution of income was constructed from the 2008 Annual Social and Economic Supplement (ASEC) to the Census Bureau's monthly Current Population Survey (CPS). To overcome the drawback of using data that reflects the income situation and labor market experience of individuals in 2007—when the recession was only just beginning—we imputed, for all civilian adults, labor force status in January 2009 and total income for the year 2008. Admittedly, imputation has its hazards; yet it is better than assuming as a baseline a sample that does not reflect the steep rise in joblessness during 2008 and the accompanying changes in income.

Estimating the increase in employment effect requires us to identify the appropriate amount of fiscal stimulus (i.e., net addition to final demand) imparted by ARRA. Our starting point was the Congressional Budget Office (CBO) estimate of the budgetary cost of the Act over the period 2009–19—roughly $787 billion. We deducted approximately $256 billion from this estimate to derive an appropriate amount of fiscal stimulus for the period 2009–11.[3] The majority (54 percent) of the resulting $531 billion was accounted for by tax cuts, while government purchases and transfers each accounted for 23 percent.

We used the 2006 input-output table for 201 industries to estimate the employment effect of government purchases of goods and services. The increase in government purchases was distributed across the final demand for the industries' products.

AJIT ZACHARIAS is a senior scholar at The Levy Economics Institute.
THOMAS MASTERSON is a research scholar at The Levy Economics Institute.
KIJONG KIM is a research scholar at The Levy Economics Institute.

The Levy Economics Institute is publishing this research with the conviction that it is a constructive and positive contribution to discussions and debates on relevant policy issues. Neither the Institute's Board of Governors nor its advisers necessarily endorse any proposal made by the authors.

Copyright © 2009

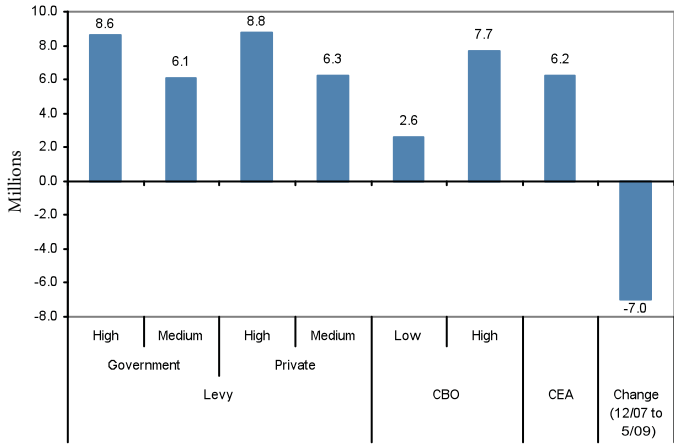
We employed two alternative assumptions about the distribution of the increase in final demand across industries. Under the first, which reflects national accounting conventions, we distributed the additional final demand among the government industries in the table; we refer to this as the "government" assumption. The second alternative assumption involves distributing the increase in final demand across government and private industries, with the latter capturing most of the increase and government industries receiving only those outlays destined for tasks that, under the current institutional arrangements, are essentially performed by government bodies. This assumption, called the "private" assumption, reflects the older national accounting view that government is solely a consumer, rather than the current view that regards government as a consumer and producer.

Following the conventional method, the impact of tax cuts and transfers on GDP were calculated using a set of multipliers that converts an additional dollar of government expenditure (or tax cut) into an increase in GDP.[4] For each tax cut and transfer, the CBO has specified the range of values for the multiplier (CBO 2009); we constructed scenarios using the high value and the midpoint of the range as alternative values. The resulting increase in aggregate GDP was distributed among the major industries according to their GDP shares in 2006. In the next step, using the 2006 employment-to-GDP ratios, the increases in GDP by industry were translated into increases in employment by industry.

The employment estimates generated by the input-output and conventional methods were combined to arrive at the total additional employment that accrued to each major industry as a result of the stimulus. We assumed that the additional employment created by ARRA would be split across major occupations in each industry in the same proportions that total employment was split in 2006.

In the final step, we assumed that the additional demand for labor created by the stimulus would be met by an increased supply of labor from the pool of "employable" individuals in the ASEC.[5] We matched individuals with jobs and imputed the annual earnings of the newly employed. Then we calculated the total personal income (earnings plus all other money income) of the newly employed and the income of the households in which they lived, on the assumption that components of their personal income other than earnings and the personal income of individuals other than the newly employed would remain unchanged.

Figure 1 Estimates of Job Creation under ARRA, 2009–11 (in millions)



Notes: We estimated the potential additional employment from the stimulus under two sets of values for the multipliers for transfers, taxes, and subsidies ("high" and "medium") and under two assumptions regarding the industrial distribution of final demand generated by government purchases ("government" and "private"). The combination of assumptions produces four scenarios.

Sources: Authors' estimates, CBO (2009), CEA (2009), and Bureau of Labor Statistics

Table 1 Recession Job Losses versus Estimated ARRA Job Creation, by Demographic Group (in percent)

Category	Shares			Net Change, Relative to 12/07
	12/07	Job Losses	ARRA[1]	
A. Sex				
Men	53.3	73.5	59.8	-0.02
Women	46.7	26.5	40.2	0.01
B. Race/Ethnicity				
White	69.0	64.6	60.5	-0.01
Nonwhite	31.0	35.4	39.5	0.00[2]
C. Education				
Less than high school	10.6	28.3	3.6	-0.10
High school graduate	29.3	51.6	21.1	-0.05
Some college	28.8	15.3	36.5	0.03
College graduate	31.3	4.7	38.8	0.04
Total	100.0	100.0	100.0	0.00[2]

1. Estimates of ARRA employment were obtained under the "government–medium" scenario.
2. Indicates a number between minus 0.01 percent and plus 0.01 percent.

Source: Authors' calculations

How Many New Jobs, and Who Gets Them?

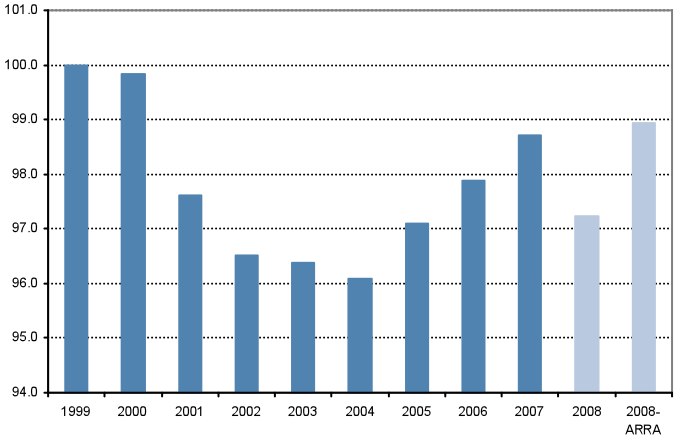
Our estimates of new jobs under four discrete scenarios are shown in Figure 1, along with the estimates by the CBO and the Council of Economic Advisors (CEA). It is a remarkable coincidence that the estimates of new jobs under our "medium" scenarios are nearly identical to the administration's estimate. However, even with the potential for an additional 6.2 million jobs over 2009–11, it is sobering to note that, as of May 2009, total employment has already fallen by 7 million since the start of the recession in December 2007 according to the monthly CPS. Given that a sizable decline in employment is likely to occur during the period of projection, even our "high" scenario estimates (8.6 to 8.8 million) or the estimate of the CBO (7.7 million) will largely have a palliative rather than a curative effect on the employment crisis.

While the ameliorating impact of the stimulus plan on the employment situation is surely welcome, it appears that the government could have achieved more at the same cost by skewing the stimulus package toward outlays rather than tax cuts. In accordance with the general macroeconomic consensus, we found that the amount of stimulus required per new job created was much higher for taxes than outlays under all scenarios. Each additional job would cost approximately $69,000 in tax cuts versus $52,000 in spending increases in the "medium" scenarios, and $110,000 versus $69,000 in the "high" scenarios.

We assessed the equity aspects of job creation under ARRA by asking whether it creates jobs for (1) those hit hardest by the recession and (2) those groups that are, as a whole, considered disadvantaged in the labor market (Table 1). The first criterion would suggest that the job creation favors women over men, nonwhites over whites,[6] and those who attended or graduated from college over the less educated. In contrast, the second criterion indicates that job creation would not favor women and nonwhites. By either standard, the picture for those who have not attended college appears to be particularly bleak. This group made up about 40 percent of total employment at the start of the recession and accounted for 80 percent of job losses, yet its share of ARRA employment is likely to be less than 25 percent.

The final column in the table shows the difference between jobs created under ARRA and jobs lost in the recession (as of March 2009) as a percentage of the level of employment in December 2007. Women are likely to gain more jobs than the number they have lost in the current recession as of March 2009; consequently, their level of employment will be slightly higher than at the start of the recession as a result of ARRA. Whites lose ground in employment relative to the start of the recession even with ARRA, while nonwhites make no significant gain. Individuals who have not graduated from high school will suffer the largest loss, even after accounting for the employment gains from ARRA, followed by those with just a high school degree. It is worth emphasizing that these estimates are constructed by ignoring job losses that have occurred since April 2009, and further job losses are likely during the current recession. They also assume that any additional employment from the stimulus is created instantaneously.

Figure 2 The Effects of ARRA on Median Household Income (1999 = 100)



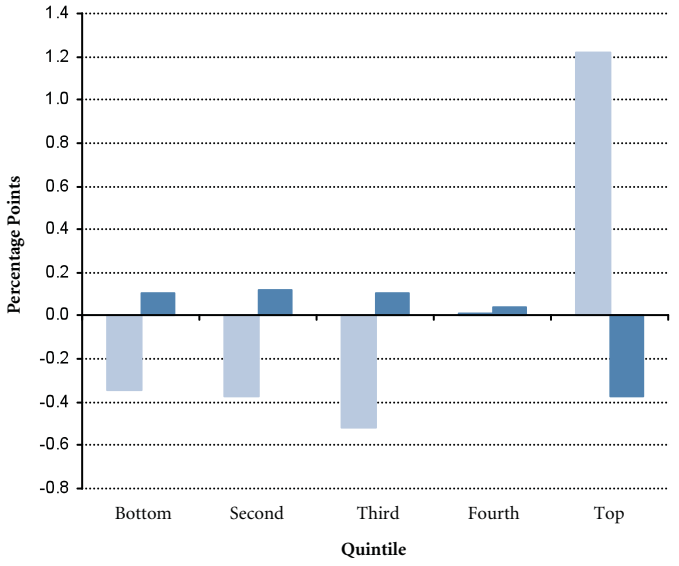
Notes: The effects of ARRA were estimated under the "government–medium" scenario. The bar labeled "2008-ARRA" represents the baseline revised to include the effects of ARRA.

Sources: The estimates for 2008 and 2008-ARRA are authors' estimates. The data for the remaining years are from the U.S. Census Bureau.

Effects of the New Jobs on Income Growth and Income Distribution

We next turn to our estimates of median household income (Figure 2). The peak of the real household money income series for 1967–2007 occurred in 1999 at approximately $52,800 (in 2008 dollars), which we have set equal to 100 in the figure. The values for the other years are expressed as a percentage of the 1999 level. Our estimates for 2008 and 2008 with ARRA effects are shown by the bars labeled, respectively, "2008" and "2008-ARRA." We find that median household income is likely to decline

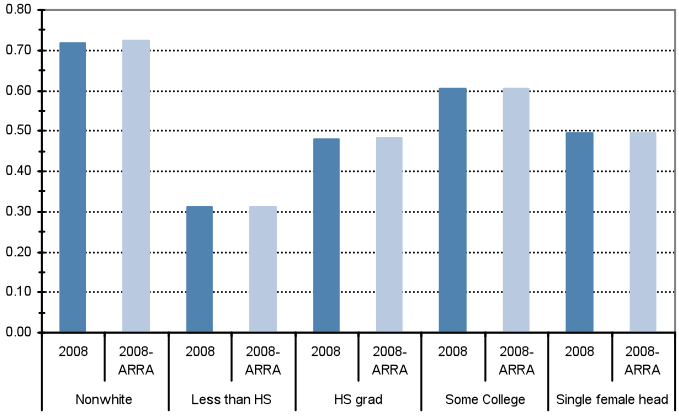
Figure 3 Change in the Share of Aggregate Income by Quintile (in percentage points)



Notes: "2008-ARRA" represents the baseline revised to include the effects of ARRA estimated under the "government–medium" scenario. The percentage shares in aggregate income in 2007 were as follows: top quintile, 49.6 percent; fourth quintile, 23.7 percent; third quintile, 14.8 percent; second quintile, 8.6 percent; and bottom quintile, 3.6 percent.

Source: Authors' estimates

Figure 4 The Effects of ARRA on Disparities in Money Income among Selected Subgroups of Households (ratio of mean values)



Notes: The effects of ARRA were estimated under the "government–medium" scenario. The bars labeled "2008-ARRA" represent the baseline revised to include the effects of ARRA. The ratios shown are defined as follows: nonwhite relative to white; each educational group relative to college graduates; and single female–headed families relative to married couples.

Source: Authors' calculations

in 2008 by 1.5 percent. The effect of ARRA on household income is estimated to slightly more than offset that decline. If it were to materialize, the level of income will still be lower than what the average household received in 1999 and 2000, but it might represent a softening of the blow delivered on the middle class by the current economic crisis.

The Obama administration has estimated that the likely impact of ARRA will be to boost the average money income of the middle quintile of working-age families[7] by 2.3 percent (Middle Class Task Force 2009). This estimate was obtained by projecting the impact of the expected decline in unemployment due to ARRA on family income. Our own estimates for the same group of families, however, show a much more modest gain of 1.8 percent.

We estimate that ARRA will improve the shares of all quintiles in aggregate income, with the exception of the topmost (Figure 3). However, the pro-poor pattern of income growth under ARRA represents only a small compensation for the losses suffered between 1999 and 2007 for the bottom 60 percent of the distribution. The legislation's likely effect on overall inequality in money income might be negligible, since it does not address systemic inequality in the economy.

The expected movements in household income generated by ARRA typically appear to favor the groups usually considered disadvantaged. However, the likely size of those movements will make no appreciable dent in the substantial disparities in money income that exist among groups (Figure 4). Nonwhite households continue to receive an annual income that is 28 percent less than that of white households. Almost no change is visible in the income disadvantage of households headed by individuals who are not college graduates. Those with less than a high school education receive an annual income that is only 31 percent of that of college graduates; for high school graduates and those with some college education, the comparable percentages are 48 and 60, respectively. The gap between single female–headed families and married couples also appears to be unchanged as a result of the legislation's effects on household income.

Conclusion

The preliminary and tentative character of this exercise cannot be emphasized enough. Only a small fraction of the total appropriations made under ARRA has actually been spent so far. The specific purposes for which, and the manner in which, different levels and agencies of government will spend substantial chunks of the

monies are still to be determined. The "known unknowns" about the Act itself impose a sizable degree of tentativeness to any evaluation. In addition, the methods and data utilized in conducting our assessment are bound to change in the future as we refine our methods and better information becomes available. Admittedly, there is a great deal of uncertainty surrounding the construction of most future economic scenarios, and ours is no exception.

All that being said, our analysis points toward the necessity for a comprehensive employment strategy that goes well beyond ARRA. The need for public provisioning of various sorts—ranging from early childhood education centers to public health facilities to "greening" of public transportation—coupled with the severe underutilization of labor naturally suggests an expanded role for public employment as a desirable ingredient in any alternative strategy. Government policies and priorities have to be radically refashioned to place the country on a sustainable and equitable growth path.

Notes

1. See www.recovery.gov/?q=content/our-mission (accessed April 24, 2009).
2. Available at http://www.whitehouse.gov/blog/inaugural-address/ (accessed April 24, 2009).
3. The amounts excluded were the outlays for the State Fiscal Stabilization Fund and state fiscal relief.
4. There is a great deal of controversy about the "appropriate" value of multipliers that fundamentally reflects deep-rooted differences among macroeconomic theories. For the administration's approach, see Romer and Bernstein (2009) and CEA (2009). Cogan et al. (2009) have advanced an opposing view (with very low multiplier values).
5. The employable pool consisted of adults who were deemed to be not working as of January 2009. Additionally, we excluded individuals who did not work at all in 2007 and gave the reason for their not working as being retired, ill, disabled, taking care of family, or, for those under 20 years of age, in school.
6. "Whites" refers to Non-Hispanic whites. Everyone else is classified as "nonwhite."
7. Families with heads aged 25 to 64 are defined as working-age families.

References

Cogan, J. F., T. Cwik, J. B. Taylor, and V. Wieland. 2009. "New Keynesian versus Old Keynesian Government Spending Multipliers." Working Paper No. 14782. Cambridge, Mass.: National Bureau of Economic Research.

Congressional Budget Office (CBO). 2009. "Estimated Macroeconomic Impacts of the American Recovery and Reinvestment Act of 2009." Washington, D.C. March 2. www.cbo.gov/doc.cfm?index=10008 (accessed March 5, 2009).

Council of Economic Advisors (CEA). 2009. "Estimates of Job Creation from the American Recovery and Reinvestment Act of 2009." Washington, D.C. May. www.whitehouse.gov/administration/eop/cea/Estimate-of-Job-Creation/ (accessed May 12, 2009).

Middle Class Task Force. 2009. "The American Recovery and Reinvestment Act: Helping Middle-Class Families." Staff Report. Washington, D.C.: Office of the Vice President of the United States. March 19.www.recovery.gov/?q=node/265 (accessed March 25, 2009).

Romer, C., and J. Bernstein. 2009. "The Job Impact of the American Recovery and Reinvestment Plan." Washington, D.C.: Obama-Biden Transition Project. January 9. http://otrans.3cdn.net/45593e8ecbd339d074_l3m6bt1te.pdf (accessed January 22, 2009).

Zacharias, A., T. Masterson, and K. Kim. 2009. "Distributional Impact of the American Recovery and Reinvestment Act: A Microsimulation Approach." Working Paper No. 568. Annandale-on-Hudson, N.Y.: The Levy Economics Institute of Bard College. June.