Written Testimony of John S. Irons, Ph.D.

Research and Policy Director

Economic Policy Institute

1333 H Street NW

Washington DC 20005

(202) 775-8810

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Introduction

In response to a rapidly deteriorating economy, Congress in February passed and President Obama signed the American Recovery and Reinvestment Act of 2009, which put in place a number of measures designed to save and create millions of jobs. These included tax cuts to individuals and businesses, aid to state governments, supports for struggling families, and direct investments in national infrastructure.

As part of this effort, Congress and the President established a requirement for recipients of Recovery Act funds to report quarterly on a range of activities, including project status, location, and number of jobs created or saved. This (and other) information was to be tracked on a new Web site, Recovery.gov.

On October 15, 2009, Recovery.gov began posting quarterly reports from fund recipients. The first wave consisted of over 5,000 reports by federal contractors who received Recovery Act project funding. A subsequent wave included over 100,000 reports from recipients of grants and loans. The reports contain a narrative description of the job impact and an estimated number of jobs created or saved. At this time, the reports total over 640,000 jobs created or saved.

In addition to this effort to measure direct job creation, the Council of Economic Advisors (CEA) has also estimated the total number of jobs that would be created by the recovery act. According to a CEA analysis conducted in May, the recovery package was estimated to create or save approximately 1.5 million jobs by the fourth quarter of 2009, and 3.5 million jobs would be created or saved by the end of 2010.[1]

This testimony examines the job impact of the recovery package, specifically in regards to the data collected so far through the recipient reports. I then examine the relationship between the recipient reports and the more complete estimates done by the CEA and others. Finally, I examine some macroeconomic evidence to take an initial look at the broader economic impact.

Highlights of this testimony include:

- Recipient reports, while providing valuable information on projects and employment, will not fully capture the full employment impact of the Recovery Act policies.
- Recipient reports contain a number of errors or inconsistencies across reports that would create both over- and under-reporting of job creation.
- The under-reporting appears to be as significant a problem as over-reporting, in particular:
    - There are a number of cases in which prime recipients do not correctly estimate "saved" jobs.
    - Sub-contractors and sub-awardees are not required to report on job creation, and it often unclear if or how sub-prime recipient jobs are included.
- The recipient-report job totals are consistent with CEA job estimates as well as with other macro-measures of the impact of federal policy on the economy and employment.

[1] Council of Economic Advisors "Estimates of Job Creation from the American Recovery and Reinvestment act of 2009" May 2009, at http://www.whitehouse.gov/administration/eop/cea/Estimate-of-Job-Creation/

- The evidence suggests that the Recovery Ac is having an impact, and has likely created or saved between 1.1 and 1.5 million jobs so far.

Limitations of Recipient Reports[2]

As noted above, the Recovery Act put in place transparency and accountability measures mandating that recipients of federal funding report on the number of jobs that are created or saved by these investments.

The recipient data contains valuable information on the effectiveness of the Recovery Act, but a number of considerations should be kept in mind when using this limited data. In particular, the recipient-level data made available through the Recovery.gov site, while exceptionally valuable, will never reveal the full extent of job creation as a result of the Recovery Act provisions: there will be many more jobs supported, and in a more geographically diverse area, than the recipient-level data will suggest. For example:

- **Grant, contract, and loan data are only part of Recovery Act funding.** The recipient-level data includes reports from recipients of contracts, grants, and loans, representing only part of the overall Recovery Act. For example, tax reductions, increased unemployment insurance payments, greater nutritional assistance, and much of the assistance to state governments will not be included in the recipient-level jobs data. So far, these other sources of funding have far exceeded the outlays resulting in contracts, grants, or loans.
    - Of the total Recovery Act funding, 35% is in the form of contracts, grants and loans.
    - Of the funds paid out so far, 25% is in the form of contracts, grants and loans.

	Tax Benefits	Contracts, Grants and Loans	Entitlements	Total
Total Recovery Act Funds	37%	35%	28%	100%
Funds Paid Out	40%	25%	35%	100%

- **Not all recipients are required to report.** Reporting is currently limited to "prime" recipients and the first level of sub-recipients. For contracts directly awarded to private companies, for example, second-level sub-contractors are not required to report. (Prime and next-tier recipients may report estimated jobs created by subsequent sub-contractors, but no direct reporting is required by the lower-tier companies.)

[2] This section is substantially based on http://www.epi.org/analysis_and_opinion/entry/recovery.govs_jobs_data_a_very_partial_monty/

- **Only direct employees will be recorded.** Recovery.gov's recipient-level reports only include the jobs created directly by the recipient (and perhaps their subcontractors). For example, a new construction worker hired to install a new roof will be included, but other factors will be omitted, including:

    - *"Respending" jobs.* Data does not include the jobs saved or created by that construction worker's new spending, such as the car repairs or restaurant dining that results from their additional income.

    - *"Upstream" jobs.* Data does not include the jobs created at the companies that manufacture, transport, and sell roofing supplies at the retail or wholesale level. Recovery Act investments will increase demand for business supplies and services, leading to greater employment in sectors that support the direct activity. However, these jobs are also not included in recipient-level reporting.

- **Only a fraction of the money available has been allocated to date.** The funding for grant and contract work has only just begun to ramp up. Funding for the direct investments is expected to have a much greater impact later this year and through 2010.
    - Contracts, grants, and awards already paid out total $52.1 billion and represent just 6.6% of the $787 billion Recovery Act total, and 19% of the $275 billion that will be paid out.

- **Geographic information in the Recovery.org data is not a good guide to the full impact.** Project locations will only be a rough guide to the area impacted by the funding. While work might occur in a particular location, the investment dollars will have much broader impact. In particular, employees might reside in locations other than where the work is performed. In addition, re-spending and supplier jobs will almost certainly be dispersed widely across regions or the nation.

- **Inconsistent methodologies across reports.** It is clear from the data submitted that a range of methodologies are employed by recipients of Recovery Act funds. The Office of Management and Budget has provided some guidance on reporting, and the Recovery Act Transparency and Accountability Board has made (some of) this available to recipients; however, there are numerous instances of unclear or misinterpreted instructions resulting in mis-measurement across reporting entities. This is especially true when estimating the number of jobs "saved" by the Recovery Act. (See below for further details.)

Because of these limitations of recipient-level reporting, the jobs data included in the recipient reports should not be interpreted as a full measure of the impact of the Recovery Act.

In fact, as discussed below, the Recovery Act has likely created/saved about twice the 640,000 jobs reported on Recovery.gov. By examining the pace of spend-out and using standard multipliers from Moody's Economy.com, it appears that the recovery act added approximately 2.7 percentage points to annualized growth in the third quarter, and a bit more in the prior quarter.[3] This translates to an increase in aggregate employment of between 1.1. and 1.5 million as a result of the Recovery Act.

Recipient Reports: Observed Problems[4]

The recipient reports are a substantial step toward federal accountability and transparency; however, they do not represent a full accounting of the number of jobs created as noted above. Further, the estimates of the numbers of job created or retained by individual recipients appear to be flawed in many cases.

The issues include: 1) inconsistent methodologies across recipients; 2) implausible estimates of job creation relative to the size of the grant and the amount of Recovery Act funds received; and 3) internally inconsistent estimates within individual reports, including inconsistencies between the job narrative and the estimated number of jobs gained.

The size of the problems are difficult to gauge. The Recovery Accountability and Transparency Board has screened the data for some of the most obvious problems, and the Board and oversight agencies will also likely continue to monitor. On first review, it appears that the data problems highlighted below are not uncommon; however, whether these problems would lead to an over- or an understatement of the total direct job creation is unclear: it appears that there are many cases of both "too many" as well as "too few" jobs reported. Further, examples that have already been identified as problematic by, e.g. various media outlets, would not lead to major revisions in the total number of jobs.

Data inconsistencies: Origins

Most of the most apparent data issues stem from a failure of contractors or recipients to follow official guidance (See Appendix A for full guidance language). According to the instructions (Data Model 3.0, derived from Office of Management and Budget (OMB) guidance M-09-21), the estimate of the number of jobs created or saved should be calculated as follows (emphasis added):

> At a minimum, this estimate shall include any new positions created and any existing filled positions that were retained to support or carry out Recovery Act projects, activities, or federally awarded contracts managed directly by the recipient or federal contractor. For grants and loans, the number shall include the number of jobs created and retained by sub recipients and vendor. The number shall be expressed as ''full-time equivalent'' (FTE), calculated cumulatively as all hours worked divided by the total number of hours in a full-time schedule…

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[3] See Josh Bivens, "How we know the recovery package is helping" October 29, 2009, EPI Issue Brief #265, at: http://www.epi.org/publications/entry/ib265/

[4] Based on John Irons "Recovery.gov recipient reporting on jobs—Problems and recommendations" EPI, October 29, 2009 at http://www.epi.org/publications/entry/pm154/

It should be noted that this failure is, at least in part, due to unclear or insufficient guidance from implementing agencies. For example, the spreadsheet templates (e.g., FederalReportingTemplate-Contract.xls) do not include the full OMB language noted above and only state:

> Number of Jobs: Estimate the number of new jobs created and jobs retained in the U.S. and outlying areas. Refer to the Data Model for guidance on how to calculate this number.

Thus, if a contractor or recipient only uses the spreadsheet template and does not refer to other guidance (such as OMB M-09-21), they might use their own rule-of-thumb in entering this number. In particular, it is obvious from the first round of reports that many contractors incorrectly assumed that, if work was done with existing workers, then the estimate of the number of jobs would be zero.

Even if recipients were to track down OMB M-09-21, they would find that the definition of a "job retained" may still be subject to interpretation by recipients:

> A job created is a new position created and filled or an existing unfilled position that is filled as a result of the Recovery Act; a job retained is an existing position that would not have been continued to be filled were it not for Recovery Act funding. (Page 34)

It should also be noted that the FTE calculation is intended to prevent an over-statement of the number of jobs created. For example, a contractor of grantee that employees 10 people on a part-time basis as a result of the funding should not necessarily be credited with creating 10 full-time jobs.

Data inconsistencies: types of problems

While there may be legitimate reasons for some of the data inconsistencies, there appear to be far too many instances where problems arise. Problems include:

- **Inconsistent methodologies across recipients.** Some recipients report jobs saved and created, others report just new jobs. Some report on sub-contractors' jobs, others do not. Some convert hours to FTEs, others count heads.
- **Implausible estimates of job creation relative to the size of the grant and/or the amount of Recovery Act funds received**. Some contractors show millions of dollars received, yet little or no job impact. Others show little or no funding, but many jobs created.
- **Internally inconsistent estimates within individual reports**. There are many cases where the estimates of jobs created and saved are inconsistent with other data in the reports. For example:
  - Many contractor reports indicate that the project has been partially or entirely completed, and/or has received significant funding to date, yet no jobs have been created.
  - Several reports indicate that the project has not yet begun, yet a significant number of jobs have been created.
  - The narrative often describes the jobs impact in a way that is not reflected in the estimate of the number of jobs created.

- **Recipient reports only jobs created, but omit jobs "saved" or retained.** It appears that many recipients are interpreting the jobs created field as measuring only the number of additional people hired by the firm to work on the project. Many contractors are stating that existing employees were used to work on the project and are reporting zero jobs created or saved.
- **Unclear if sub-recipient (e.g., sub-contractor) jobs estimates are included.** For grants and loans, recipient reports should include these estimates, but contractors don't necessarily need to report on sub-awards. In general, it is impossible to know if the sub-contractors jobs are included or not, unless specifically included in the job creation narrative.

Going forward, it is also likely that recipients may not report cumulative job creation, but only jobs created in the most recent reporting period. The OMB guidance provides some detail on how the cumulative numbers should be reported; however, given the recent experience, recipients may not be sufficiently informed about the proper method for estimating cumulative job creation.

As noted above, the errors or mis-interpretations in the recipient reports can lead to both apparent over- and under- reporting.

Classification: Examples from Contractors

Below are some of the main areas in which data appear to be problematic for contractors whose reports were made available on October 15th. The first two groupings contain cases that appear to have implausible counts given the ARRA activities, based on simple rules of thumb. The final category contains examples where the narrative does not match the estimate of the number of jobs created. Not every item in these categories is necessarily a problem, and there are problems not captured here; however, these are areas that should be further examined by oversight agencies.

Apparent under-reporting

There are many instances in which contractors report zero jobs, even though they say they have received payments. It is uncommon for federal contractors to receive payments before work has begun, so it is possible that these reflect job-reporting errors. Moreover, there are many cases in which contractors report zero jobs even though the project status is listed as under way or even completed.

Zero jobs, project completed: 336 reports
Zero Jobs, but recipient received funds: 779 reports
Zero Jobs, but recipient received more than $100,000: 224 reports
Large Contract (more than $1 million) but less than 2 jobs: 50 reports

Apparent over-reporting

In many cases, firms may have reported "too many" jobs relative to their funding. Some recipients may report on new temporary or part-time hires (rather than converting hours worked to FTEs). Note that these cases may not necessarily indicate problems; it may be the case that firms have hired in anticipation of receiving money.

Small contract, but more than 2 jobs: 130 reports;
Number of jobs>0, but project not yet started: 399 reports;

Description does not match count
Aside from the potential problems noted above, there appear to be many cases in which the narrative description does not match the jobs estimates. This appears to be particularly true in cases in which jobs were saved rather than created.

Recipient Report Recommendations

It is clear from the recipient reports that either the jobs-reporting instructions are unclear, that recipients are ignoring the guidance, or both. The proposals below would 1) improve the guidance and communications with recipients; 2) help prevent problematic data from being entered into the system; 3) flag potential problems for additional scrutiny; and 4) augment reporting to include data that would be more likely to result in consistent estimates.

The recommendations below would help to achieve greater accuracy and consistency across reports. However, given the inherent ambiguities in estimating jobs "saved" or "retained," *it is strongly recommended that recovery act recipients also be required to report on the total number of hours worked on Recovery Act projects*. This would allow for better comparison across reports, and would be a complement to the more subjective notion of jobs retained.

- **Improve the reporting process to clarify and re-emphasize jobs-reporting guidance.** In particular, guidance and instructions need to be clarified and emphasize that all hours of work on ARRA projects, whether performed by existing workers or new hires, should go into the job calculations.
  - At a minimum the spreadsheet templates, XML Schema, online forms, etc., should all include the guidance language that states the method for calculating the number of jobs created or retained. In particular, the instructions should include: "The number shall be expressed as ''full-time equivalent'' (FTE), calculated cumulatively as all hours worked divided by the total number of hours in a full-time schedule."
  - OMB and FederalReporting.gov guidance should be amended to include examples to cover various scenarios, with a particular emphasis on how to report on the number of jobs saved or "retained."
  - Stand-alone materials should be developed to illustrate the methods that should be employed. These materials should again include examples to clarify that the proper method is to first estimate the number of hours worked on the project.
  - The recipients should be given the option to enter the total number of hours worked on the project and an estimate of the total number of hours in a FTE over that period. The FTE hours should also be checked to ensure that the number is plausible (e.g., reported in hours per day, or hours per week, or hours per quarter).

- FederalReporting.gov should also prepare a supplemental worksheet (either online or downloadable) that walks recipients through the appropriate process for calculating the number of jobs.

- **Screen recipient data for obvious errors.** Recipient reports should be automatically screened for obvious errors. The Recovery Board already conducts a first review to ensure that recipient reports do not include, for example, millions of jobs created. This process should continue to be refined and, if not done already, systemized.
- **Flag recipient reports** which are very likely to contain errors or misinterpretations of jobs instructions. The counts of reports below only include the first wave of recipient reports from contractors (and thus do not include loan and grant recipients).
- **Improve report validation.** When submitting a report that would trigger a flag as noted above, the recipient should be immediately notified of the potential flag and given the option to revise their reports before submitting a final report. The notice should also include the text of the jobs-reporting guidance:
    - For future quarterly reports, the entries should be checked to ensure that the jobs estimate is at least as large as prior reports. This will provide an initial check on whether the recipient is reporting on cumulative job creation and retention.
- **Modify Recovery.gov to indicate recipient reports that are flagged.** Recovery.gov should augment all reports, downloads, etc., to include Recovery Board flags as noted above. These data should also be provided to agencies for further follow-up if necessary. Separate files of only the flagged reports should be provided to assist public scrutiny of the reports.
- **Add data fields on jobs reporting.** Additional fields would help reduce ambiguities and clarify reporting methodology:
    - Estimated total cumulative number of hours worked on Recovery Act–funded project(s).
    - Does job estimate include subcontractors' jobs (yes/no)? If yes: how many (#)?
    - Does job estimate include saved jobs (yes/no)? If no, immediately red flag the report and reiterate guidance.

The first wave of recipient reports posted on Recovery.gov provides a wealth of data for observers to sift through on a range of Recovery Act funding. Implementing the recommendations above—from clarifying guidance to flagging and validating reports—would go a long way toward improving the quality of the data, both in aggregate and for individual recipient reports.

Recovery Act Impact

It is important to remember the dire economic situation the nation was in as a result of the economic recession that began in December 2007, and prior to the enactment of the Recovery Act. During the last half of 2008 and the first three months of 2009 (the nine months preceding the implementation of the recovery act) the economy was collapsing at a 5% annual rate, the fastest decline of any nine month period since data were first collected in 1947. By March the economy had lost 6 million jobs with two million jobs lost in just the prior three months alone, which was the greatest employment decline in sixty years. The unemployment rate had reached 8.5%, which was the highest unemployment rate since the early 1980s.

Since the passage and implementation of the recovery act, the economy and the labor market have improved. Broader economic evidence suggests that the Recovery Act is having a significant impact on the economy and on the labor market. Growth in the gross domestic product (GDP) returned to positive territory in the third quarter (July-September) of this year (Figure A), and job losses have decelerated since the start of the year (Figure B).[5]

Employment

Before the Recovery Act: Employment was declining at an average monthly pace of 553,000 jobs in the fourth quarter of 2008, and by 691,000 jobs in the first three months of 2009.

Most recent: In the most recent 3-month period, job decline has averaged 188,000 jobs.

GDP

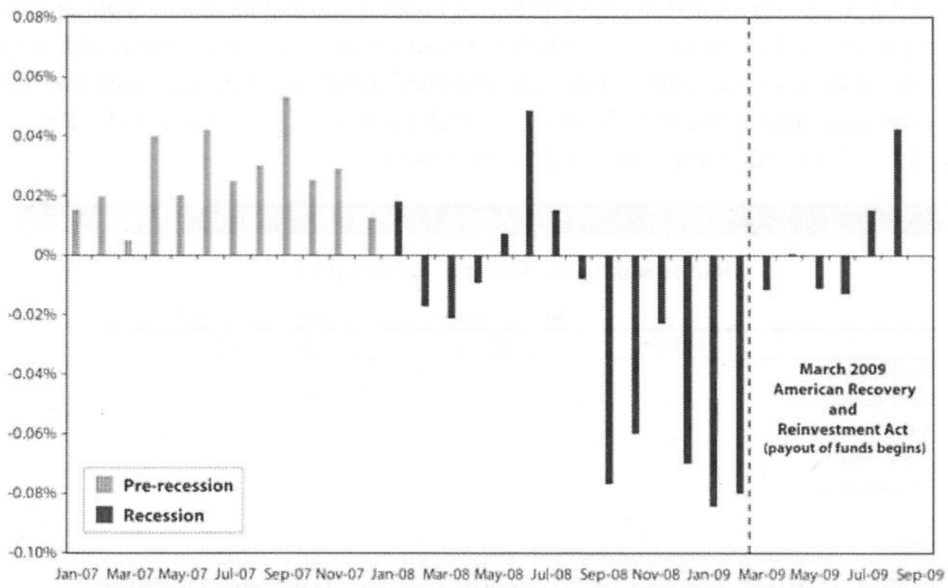
Before the Recovery Act: GDP was declining at a 5.4% annual rate in the fourth quarter of 2008, and at a 6.4% annual rate in the first quarter of 2009. The 9-month period ending in March 2009 saw the most rapid decline in GDP since quarterly data was first collected in 1947.

Most recent: GDP grew at a 3.5% annual rate in the most recent quarter, after falling at just a 0.7% annual rate in the second quarter of this year.

[5] Figures and Table from See Josh Bivens, "How we know the recovery package is helping" October 29, 2009, EPI Issue Brief #265, at: http://www.epi.org/publications/entry/ib265/

FIGURE A

Monthly percentage change in GDP (rolling three-month average)

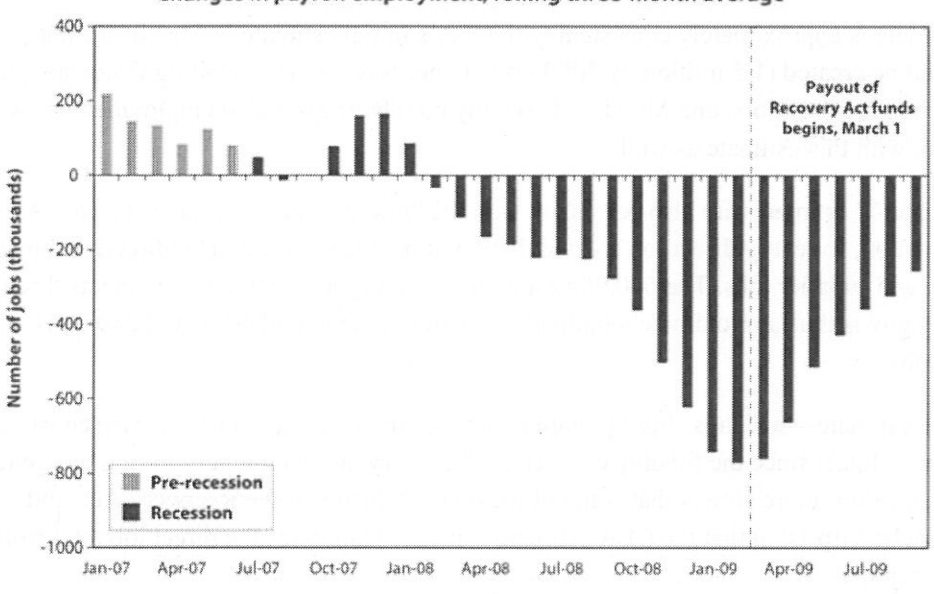


NOTE: The first stimulus package, the Economic Stimulus Act passed in February 2008, provided a large but temporary boost to both GDP and personal disposable income that appeared in the second quarter of 2008.

SOURCE: Macroeconomic Advisors monthly GDP report.

FIGURE B

Changes in payroll employment, rolling three-month average



NOTE: The first stimulus package, the Economic Stimulus Act passed in February 2008, provided a large but temporary boost to both GDP and personal disposable income that appeared in the second quarter of 2008.

SOURCE: Bureau of Labor Statistics.

Macroeconomic estimates

Using a methodology more suited to capture the full impact of the Recovery Act—including tax cuts, aid to states, and direct investments (including re-spending and upstream supplier jobs)—the number of jobs created or saved so far is likely between 1 and 1.5 million—about 200,000 jobs per month.[6] Table 1 shows the amount of Recovery Act funding to date and, once combined with standard economic multipliers, also shows the a rough estimate of the influence of ARRA on GDP growth and on job growth in each quarter since its passage.

TABLE 1

ARRA spending and impact: GDP and jobs

		Amount, $ billions			Contribution to GDP, $ billion		
	Multiplier	*1Q*	*2Q*	*3Q*	*1Q*	*2Q*	*3Q*
Direct spending	1.6	$0.0	$5.2	$ 9.2	$0.0	$8.3	$14.7
Aid to states	1.4	8.6	22.6	21.0	12.0	31.6	29.4
Transfers to individuals	1.7	1.3	31.0	18.0	2.1	51.2	29.7
Business tax cuts	0.4	0.0	18.0	22.0	0.0	7.2	8.8
Individual tax cuts	1.3	0.0	8.8	10.5	0.0	11.0	13.1
Total		9.9	85.6	80.7	14.2	109.3	95.7
% of GDP		0.3%	2.4%	2.3%	0.4%	3.1%	2.7%
					Jobs, thousands		
Jobs created/saved					96	752	660
Jobs created/saved, conservative					69	541	475

SOURCE: Data from Recovery.gov, multipliers from Zandi (2009).

This estimate is approximately consistent with CEA's initial estimate in May of the number of jobs that would be created (1.5 million by 2009:Q4). Other forecasters, including Goldman Sachs, Macroeconomic Advisors, and Moody's Economy.com have estimated employment growth consistent with this estimate as well.

These "macro" estimates are also consistent with the "micro" data from recovery.gov. As a broad approximation, for every direct job created there will be one job created "indirectly" though re-spending and supplier jobs. The 640,000 estimate of direct job creation by recipients through Recovery.gov is thus approximately ballpark consistent with a total estimate of between 1 and 1.5 million jobs.

The CEA estimate—which is slightly more than twice the direct job total—is also consistent with the recipient totals since the funding covered by Recovery.gov recipient reporting has generally gone out the door more slowly that some of the other elements of the Recovery Act, and thus it should not be surprising that the CEA estimate is higher than twice the direct job total from recipient reports.

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[6] Josh Bivens, "How we know the recovery package is helping" October 29, 2009, EPI Issue Brief #265, at: http://www.epi.org/publications/entry/ib265/

In summary, it does appear that the Recovery Act is on track. Evidence from macro-level data, to model estimates, to Recovery.gov recipient reports all point to a significant impact on jobs and the broader economy.

Appendix A: Data model 3.0

Recipient Reporting Data Model 3.0 (accessed 10/25/09)

Number of Jobs

"Jobs created and retained. An estimate of the number of jobs created and jobs retained in the United States and outlying areas.

At a minimum, this estimate shall include any new positions created and any existing filled positions that were retained to support or carry out Recovery Act projects, activities, or federally awarded contracts managed directly by the recipient or federal contractor. For grants and loans, the number shall include the number of jobs created and retained by sub recipients and vendor. The number shall be expressed as ''full-time equivalent'' (FTE), calculated cumulatively as all hours worked divided by the total number of hours in a full-time schedule, as defined by the recipient or federal contractor.

For instance, two full-time employees and one part-time employee working half days would be reported as 2.5 FTE in each calendar quarter. A job cannot be reported as both created and retained. As used in this instruction, United States means the 50 States and the District of Columbia, and outlying areas means…"

Description of Jobs Created

"A narrative description of the employment impact of the Recovery Act funded work. This narrative is cumulative for each calendar quarter and at a minimum, will address the impact on the recipient's or federal contractor's workforce (for grants and loans, recipients shall also include the impact on the workforces of sub recipients and vendors).

At a minimum, provide a brief description of the types of jobs created and jobs retained in the United States and outlying areas. ''Jobs or positions created'' means those new positions created and filled, or previously existing unfilled positions that are filled, as a result of Recovery Act funding. ''Jobs or positions retained'' means those previously existing filled positions that are retained as a result of Recovery Act funding. This description may rely on job titles, broader labor categories, or the recipient's existing practice for describing jobs as long as the terms used are widely understood and describe the general nature of the work.

ALTERNATE METHOD FOR GRANT AND LOAN RECIPIENTS: In those circumstances where the recipient employs an approved statistical methodology to generate estimates of job impact, thereby collecting data from a smaller subset of sub-recipients and vendors in order to extrapolate an estimate of job impact to all applicable sub recipients and vendors, the recipient must provide a description of the methodology used."