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June 8, 2009

The Honorable Brad Miller
Chairman
Subcommittee on Investigations and Oversight
Committee on Science and Technology
U.S. House of Representatives

Dear Chairman Miller:

Thanks you for the opportunity to testify at the Subcommittee's May 5 hearing, *Follow the Money Part II: Government and Public Resources for Recovery Act Oversight*. This letter responds to the questions for the record submitted by committee members.

- 1) and 2) How hard is it to determine if a job has been created by the stimulus act? Do you have any recommendations for how the government should calculate this net total? Do you agree with Dr. Ellig's assessment of the difficulties associated with determining jobs "created or saved"? Do you believe the existing guidance to agencies on how best to obtain job estimates provides adequate guidance on how to calculate a credible estimate of jobs created or saved? Do you think it is possible to obtain such estimates with intensive efforts? How would you suggest we evaluate the success or failure of this goal?

The Office of Management and Budget's April 3, 2009 Recovery Act guidance to agencies makes a good start by defining what counts as jobs "created" and "retained," specifying that all jobs should be reported as full-time equivalents, and encouraging recipients to specifically identify jobs attributable to the Recovery Act as opposed to other federal awards.¹

But focusing on recipients' reporting to agencies misses a much bigger issue. The Recovery Act might create jobs, induce people to switch jobs, or do some of both. "Job creation" figures reported by recipients of funding will include both kinds of jobs. If a goal of the Recovery Act is to create more employment than would have existed in its absence, then we will not know if this goal was accomplished unless we know the *net* amount of employment created.

It is impossible for recipients of the money to calculate the *net* number of jobs created or preserved by the stimulus spending. Even if the recipients conscientiously do their best to

¹ http://www.whitehouse.gov/omb/assets/memoranda_fy2009/m09-15.pdf.

present accurate numbers reflecting positions created or retained in their organizations, they cannot know whether some of the people they hired or retained would have been hired elsewhere. Some of the people hired or retained would otherwise have been unemployed for some period of time, but others may have moved from another job or would have found work elsewhere in the absence of the stimulus spending. We cannot correct for this problem simply by instructing recipients to report whether they hired unemployed people or retained people they had been planning to lay off. It is not enough to know whether someone hired with stimulus money was formerly unemployed or would have been discharged. We need to know if that person would have been employed elsewhere in the absence of the stimulus spending. It is unreasonable to expect the recipients of the stimulus money to know this.

For this reason, even if the job figures reported by recipients of the funding really do represent the most accurate estimate of jobs created or saved *in their organizations*, the reported figures will inevitably overstate the *net* number of jobs created or retained. Merely reading the numbers reported in the database will, therefore, overstate the effects of the Recovery Act on employment.

The “intensive effort” that needs to take place is not placing additional job reporting burdens on the recipients of the funding. Rather, the intensive effort needs to take the form of rigorous macroeconomic analysis that determines how many *net* jobs were created or preserved, after taking into account the effects of both the spending and the borrowing. This requires examining how total employment responds to changes in spending and borrowing.

This is not easy and will inevitably be contentious. Policymakers would do well to keep in mind this statement from the Congressional Budget Office’s preliminary analysis of the president’s budget in March:

Even after the fact, it will be quite difficult to assess the impact of ARRA on the economy. Uncertainty is great about both how the economy would perform in the absence of fiscal stimulus and the impact of stimulus. The best estimates of the impact of stimulus will come later, from studies carefully designed to isolate the effects of particular categories of stimulus from other influences on the economy.²

- 3) Are there any difficulties determining employment related to science money? Will science money more likely go to experienced and established principal investigators, or newer scientists? Does the government currently have a system to monitor and track this sort of information? If the money is more likely to go to

² Congressional Budget Office, *A Preliminary Analysis of the President's Budget and an Update of CBO's Budget and Economic Outlook* (March 2009), p. 29 available at <http://www.cbo.gov/ftpdocs/100xx/doc10014/03-20-PresidentBudget.pdf>.

proposals from more experienced PIs, then how does this affect employment? If the money goes to less experienced PIs and spurs employment, then what happens after the money dries up? Have we created an unsustainable system?

Because of the speed with which the money is supposed to be spent, money going to scientists will likely go to those who are best at getting their grant applications in quickly. This probably provides an advantage to more experienced scientists who are already very familiar with the application processes and likely have many well-developed ideas for research projects. As Dr. Newsome suggested in his testimony, the process probably also favors larger institutions with larger grants and contracts staffs who have the time to keep track of available funding and respond rapidly.

The question about sustainability is an excellent one, but it is not at all unique to science-related spending. The spending in the Recovery Act is supposed to occur quickly and temporarily, over the course of a few years. It is not supposed to permanently increase the size of federal expenditures. It is doubtful that the majority of the jobs it directly funds will be sustainable after federal spending returns to more normal levels. The theory underlying the Recovery Act is that having the federal government borrow money to put people to work will lead to a more rapid economic recovery. But there is no guarantee that the jobs that become available and sustainable as the economy recovers are the same ones the government is funding. For example, the Recovery Act will fund many road projects, but once the economy recovers the available jobs may well be in the airline or hotel industries. In short, many of the people who take jobs funded under the Recovery Act may find that they have to look for some other kind of employment after the Recovery Act spending stops in a few years.

- 4) How do you calculate the employment effects of stimulus money associated with science? In determining the net effect, should we count only the principal investigator, or also research assistants and “downstream” employment as well? How should the government account for a principal investigator who already has several grants and receives additional grants through stimulus money?

In principle, the employment effects of stimulus money associated with science should be accounted for in the same way that employment effects of other spending are accounted for. If the funding leads a principal investigator to hire additional research assistants or other staff, then these jobs could be counted as jobs created by the stimulus spending.

If much of the research funding goes to experienced scientists who already have grants, then one of several possible effects on employment could happen. An experienced PI might simply work longer hours, and thus the stimulus money might be said to create “over-employment” – the equivalent of working overtime. I do not know whether this was anticipated when the legislation was passed. An experienced PI might also direct a larger number of grants by bringing in more help and delegating more. In this case, the employment effect will not be to employ more PIs, but to employ more junior colleagues, research assistants, and others to whom work can be delegated. Assuming this is new

employment, the situation seems no different than that of any other government contractor who adds personnel without adding more top-level managers.

- 5) How should the government account for stimulus money that “crowds out” or limits venture capital and private investment? Is there any way to determine the amount of private investment prevented by public money?

This question could be interpreted in two different ways. One way stimulus money might “crowd out” private funding is if the money is spent on projects the private sector would otherwise have funded. Alternatively, even if the money is spent on projects the private sector would not have funded, it is possible that the government spending merely displaces private investment or consumption spending. In either case, the government spending would not increase the total amount of economic activity or employment.

The best way to prevent stimulus money from displacing projects that the private sector would have funded is to ensure that the money is spent on projects that economic analysis suggests the private sector might under-provide. Basic research, for example, might be under-provided by the private sector if it is difficult for private firms to profit from research results that add to the general stock of human knowledge. More applied research that produces knowledge which can be protected by patents or trade secrets is less likely to be under-provided by the private sector. Therefore, the government can minimize crowding out of private research by focusing on basic research that the private sector is unlikely to fund. Similarly, federal highway funding could displace private investment in highways if it is used for projects that could be financed by tolls. Federal highway funding is less likely to displace private funding if it focuses on projects where tolling would not be practical.

The broader concept of “crowding out” stems from government borrowing to finance the Recovery Act. Government borrowing displaces at least some private investment, because the funds borrowed by the government are not available for other borrowers. In the short term, this means that the private sector borrows and invests less, which can be expected to have a depressing effect on employment that partly counteracts the stimulative effect of the government spending. Over the longer term, the economy may be less productive because there is less private capital.

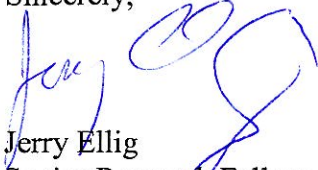
The Recovery Act might not just crowd out private investment spending; it might also crowd out private consumption spending. The government spends more, borrows the money from citizens, and citizens spend less than they otherwise would have spent.

The exact size of any offsetting effects on investment or consumption spending will be vigorously contested, even by well-meaning economists who are not pursuing partisan or ideological agendas. Essentially, determining whether the Recovery Act increases economic activity and employment boils down to a test of the Keynesian economic model, which posits that government can expand GDP and employment in a recession by borrowing and spending or cutting taxes. The Council of Economic Advisers estimated the employment impact of the Recovery Act by using “multipliers” to project the effects

of the spending and tax cuts on Gross Domestic Product, then using rules of thumb to calculate the number of jobs the projected increase in GDP would produce.³ If the CEA uses similar methods to assess the effects of the Recovery Act on jobs, the resulting numbers will only be as reliable as the underlying Keynesian macroeconomics.

I hope these responses have been helpful; please feel free to contact me at 703-993-4925 or jellig@gmu.edu if any further discussion would be helpful.

Sincerely,



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Senior Research Fellow

³ http://www.whitehouse.gov/administration/eop/cea/factsheets_reports/.