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NO SUCH THING AS SHOVEL READY: THE SUPPLY SIDE OF THE RECOVERY ACT

By Garrett Jones and Daniel M. Rothschild

MERCATUS CENTER
George Mason University

No Such Thing as Shovel Ready: The Supply Side of the Recovery Act

Garett Jones
and
Daniel M. Rothschild

Mercatus Center at George Mason University[1]

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"It's not what I would recommend as a person who has a fiduciary responsibility to ensure that the taxpayers of my county are getting the best value."

—County government official, speaking about ARRA

"This program . . . saved jobs. It's going to have a dramatic effect on the city's facade, on the way people view the city."

—Community development agency director

Without the stimulus funding, "we would have probably had our guys working on something else."

—Engineering firm manager

"I think we've been doing good work . . . but I question whether such a big investment was wise, or who is actually making sure everyone else uses their ARRA dollars wisely."

—Medical research firm manager

"It [ARRA] kept us from shutting our doors."

—Community arts nonprofit director

How did the $787 billion American Reinvestment and Recovery Act (ARRA) affect the U.S. economy?

Since 2008, support for effective fiscal stimulus has been premised on the belief in the existence of hundreds of billions of dollars worth of what became popularly known as "shovel-ready projects." These infrastructure construction and improvement projects would simultaneously lower unemployment, provide value to taxpayers, stimulate private sector growth, and begin in 90 days or less.[2] The U.S. media picked up on this expression with over 4,000 news stories on "shovel-ready projects" appearing between November 2008 and March 2009.[3]

Under the commission of the Mercatus Center at George Mason University, we conducted a first-of-its-kind study, sending interview teams across the country to ask businesses, nonprofits, and local governments just what the stimulus program accomplished. Researchers interviewed representatives of 85 different organizations, drawn from a random sample in five different metropolitan areas, and learned about their experiences applying for and receiving contract and grant funding under ARRA.

Our effort seeks to understand how the stimulus affected the decision making of managers of firms and nonprofits that received funds and to use that understanding to assess the theoretical underpinnings of ARRA.

As is often the case when economic models are transferred from the blackboard to actual public policy, there was a gap between theory and practice: looking back, it appears that

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[2] The 90-day requirement was written into ARRA. Brian Naylor, "Stimulus Bill Gives 'Shovel-Ready' Projects Priority," NPR.org, February 9, 2009.

[3] Based on Factiva search for term "shovel-ready AND re=usa" for dates November 1, 2008 through March 31,2009, conducted March 23,2011.

shovel-ready projects were few and far between.[4] As President Obama conceded in an October 2010 *New York Times* interview, "There's no such thing as shovel-ready projects." Our interviews provide a thorough, reality-based vindication of the president's statement.

Based on the information acquired in the interviews, the most vociferous boosters of fiscal stimulus should discount their benefits calculations by a significant factor. Keynesian economists claim that government spending in a recession can have a large "multiplier effect," where a dollar of government spending quickly increases the size of the overall economy by a dollar or more: the government hires unemployed workers, who then "multiply" the effect when they shop for consumer goods.

In the alternative neoclassical model of the economy, when the government hires workers, it hires them away from other private-sector firms, so government spending creates zero additional employment. Of course, both of these views are caricatures, simplifications; the question for policy makers is which simplification best matches the facts. And based on our interviews, the neoclassical simplification fits the facts better than the Keynesian one.

This is not to say that ARRA-funded projects created no value nor that ARRA projects failed to create any temporary jobs. We do not conclude whether the stimulus "worked" or "failed." Over the next few months, we will analyze all 50 hours of interviews and present a longer, more detailed study. But at this point, we can just make a preliminary conclusion: *ramping up is hard to do*.

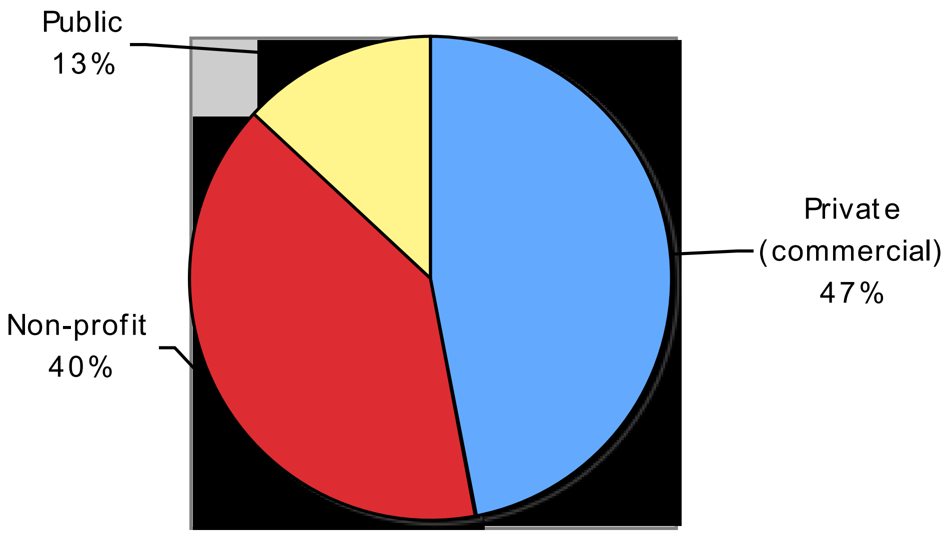
How is the Stimulus <u>Supposed</u> to Work?

The Keynesian story of economic downturns says that when private spending collapses, government can quickly come in and hire the workers who've lost their jobs. Keynesians argue that because the private sector takes months or years to adjust to a big shock, the government can find plenty of underused workers (and underused firms) and give them some work to do. It's a win-win: the private sector wasn't going to use those workers and firms anyway for at least for a year or two, and the citizens get some extra government services they wouldn't have gotten otherwise. Under the Keynesian story of fiscal stimulus, this government purchasing is pretty close to a free lunch.

But that free lunch is only available for a short time: eventually, according to the Keynesian theory, unemployed workers find new jobs, and businesses cut their prices so they can sell their products. Thus as Lawrence Summers, chair of President Obama's National Economic Council, put it, a Keynesian stimulus program needed to be "targeted, timely, and temporary": *targeted* at unemployed workers who could quickly produce value, and *timely* and *temporary* so that they do their work before the private sector

[4] An old and well-trodden joke involving a physicist, a chemist, and an economist stranded on a desert island ends with the punch line of the economist "assuming a can opener." It seems that one mistake that many pro-stimulus economists made here was to assume shovel-ready jobs.

Fig. 1: Organizations Interviewed by Sector



would find a use for them.[5] ARRA's designers and supporters intended the act to provide exactly this kind of stimulus, spending a significant amount of federal money through both the private sector and state and local governments in a short period of time, with an eye to, as the ubiquitous signs posted by ARRA-funded public infrastructure projects put it, "Putting America Back to Work."

Who Did Mercatus Interview?[6]

Our interviews give us a window into what extent Summers's "Three Ts" were possible in the real world. Our team of interviewers, led on the ground by one author (Rothschild), surveyed a total of 85 organizations that had received stimulus funding in five separate metropolitan regions across the country: one each in the mid-Atlantic region, the Southeast, the Southwest, the Midwest, and the Northwest.

Once we selected our metropolitan regions, our sample was an opportunistic one: Our interview teams wrote and called stimulus-receiving firms and organizations at random, with the only preference being toward organizations receiving higher amounts of ARRA funding.[7] We asked if our team could visit their offices and interview them for perhaps 20 minutes about how ARRA impacted their firms.

[5] Summers, Lawrence H. 2007. "The State of the US Economy." Presentation at Brookings Institution forum, December 19, 2007. http://www.brookings.edu/events/2007/1219_us_economy.aspx.

[6] More information about this process is detailed in the appendix to this paper.

[7] These organizations had all received funding reported on *Recovery.gov*, the website created by the Recovery Act to track stimulus spending. Some interviewees were unaware that contracts on which they had been prime or sub award recipients were funded by ARRA and therefore did not know that information about their awards was available on Recovery.gov. Of these, some further denied that they had received any ARRA-funded awards and insisted that the government had made a mistake. We took the Recovery.gov data as correct and complete for the purposes of selecting our sample.

The organizations that responded appear typical. We spoke with a cross-section of stimulus recipients: clean energy startups, domestic violence shelters, food banks, construction firms, and community health clinics, to name a few. We also spoke with local government agencies that had received ARRA grants, often used to pay for construction projects, education, beautification, and summer jobs.

The vast majority of the organizations our teams spoke with were glad to discuss ARRA with great candor: many seemed aware that they were part of history, and many wanted to let researchers know about the successes and failures they saw in the program.

Table 1: Quick Facts about Job Creation

Total Interviews	85
Interviewees who discussed job creation	59
Interviewees who reported saving/creating jobs	41
Interviewees who reported no job creation/savings	18
More detailed statistics in Table 2	

We owe a great debt to the interviewees without whose time and insight this research would have been impossible. Our teams only spoke with mid-level managers or higher—and in many small organizations the owners and CEOs did the interview themselves. In order to encourage the interviewees to speak freely, they were all offered anonymity.[8]

In a longer academic paper available later this year, we will spell out our methodology in greater detail. Our interview format was semi-structured, but in many cases interviews veered off-topic because of the interviewee's particular interests and concerns. Interviews typically ran from 20 to 40 minutes, and 78 percent consented to being audio recorded.[9]

Our Focus

Our interviews centered around understanding to what extent the federal government can spend money on short notice that:

1. Creates as much value as the typical government project, and

2. Puts the unemployed back to work.

For example, one particular question that our teams always asked was "How many jobs did you save or create with the stimulus funding?" It was clear that most of the interviewees had thought about this question in advance, partly because the question was

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[8] In some cases, genders have been changed, and specific numbers have been slightly altered to protect anonymity. Aggregate figures have never been changed.

[9] Due to both the regulations of the George Mason University Human Subjects Review Board and the need to protect to anonymity of our respondents, we are unable to make these recordings or transcriptions public.

so central to public debates over ARRA, and partly because most firms had to regularly file ARRA paperwork that calculated a number for "jobs saved or created."

Quarterly filings on the jobs impact of ARRA funding, as well as the progress of ARRA-funded projects, were in most cases reported within 10 days of the end of each federal fiscal quarter. These data were made available on Recovery.gov and were reported in Council of Economic Advisers reports on ARRA job creation.

What was also clear was that interviewees thought about this question and hence calculated the number of jobs created differently. Some firms thought about the question of job creation in terms of opportunities foregone, evaluating the likely revenues, profit, and employment figures in the absence of ARRA funding. This was the most "economic" way of responding. Thinking through the consequences of different scenarios is part of running a successful business, so we should place some weight on their professional judgment.

Other firms responded with the job numbers as calculated per their funding agency's instructions, which do not appear to have been consistent, either across the federal government or across reporting periods. Some firms that were especially detailed in their responses reported that the Recovery.gov formula counted every 520 hours of work within a quarter as one stimulus-funded "job."

This formula was widely used.[10] However, this formula does not ask whether the worker quit another job to take the ARRA job or whether the job would have existed "but for" ARRA.[11] Thus, this is not an opportunity cost calculation. It is a mere arithmetic sum.

It is also not the only arithmetic formula used to calculate job creation: some respondents were at least initially told by federal officials to take the amount of stimulus funding they received and divide it by a figure (in one case, $92,000 per job) to determine the number of jobs their funds created. This method was job creation by assumption. Additionally, the methods by which ARRA recipients were to calculate and report jobs saved and created changed somewhat over time.[12]

Yet other firms were given few if any instructions on how to calculate the number of jobs they saved or created. Instead they based the number they reported to the federal

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[10] A web search for "520 hours job ARRA" will provide substantial evidence from ARRA recipients that this Office of Management and Budget formula was widely used. For instance: controller.berkeley.edu/efa/arra/jobsEstimateExample.htm. One version of the OMB's rules are here: http://www.whitehouse.gov/sites/default/files/omb/assets/memoranda_2010/m10-08.pdf

[11] The Office of Management and Budget attempted to use the "but for" approach in early surveys but stimulus recipients objected. On the rejection of a "but for" job creation measure, see the Council of Economic Advisor's memo: http://www.whitehouse.gov/files/documents/cea_4th_arra_report.pdf. Note that the CEA did not add up these quarterly job creation estimates to create annual estimates; they simply report quarter-only job figures.

[12] See, for instance, http://www.whitehouse.gov/sites/default/files/omb/assets/memoranda_2010/m10-08.pdf.

government on historical trends or simple head counts. Some respondents included as "jobs created" positions that existed for a matter of days or weeks, such as jobs for plumbers or painters.

The jobs numbers our respondents gave in our interviews were thus some combination of the arithmetic, head count, and opportunity-cost methods—with respondents sometimes noting that the official numbers reported weren't quite how things felt on the ground. This tension between the accountant's arithmetic and the economist's opportunity cost was a recurring theme in our interviews.[13]

Did the Stimulus Create Jobs in the Real World?

Let's begin with a success story. The owner of a construction engineering firm told our team that ARRA is "the only reason our doors are still open." He didn't suggest having to sacrifice quality in order to meet the ARRA's strict deadlines. (Our interview teams rarely asked specifically about the quality-speed tradeoff, but many interviewees brought up the issue themselves). And because of ARRA, his small firm grew by about 20 workers, of which 6 had been brought off of unemployment.

Thus, ARRA saved his firm, he found good-quality workers quickly, and he worked on a project that seemed to be no different than the usual federal construction project. That is what a success story looks like, and this is about as good a story as we found.

But even in this success, there are problems for the Keynesian free-lunch theory of stimulus: half a dozen workers came from the unemployment lines, but from where did those other fourteen workers come? They came from other firms, creating a genuine trade-off: more person-hours at one firm meant fewer person-hours at another. This raises substantial questions about how many of the jobs created or saved by ARRA were actually new jobs rather than employees plucked from one firm to work on an ARRA contract. And this substantially undermines both the value creation and job creation criteria we identified on the first page.

Similarly, one project manager for a federal agency brought on five workers to administer ARRA funds. But of these five "new" hires, two hires were agency retirees who came back to work and through a special exemption drew ARRA-funded salaries while continuing to receive retirement benefits, one hire was transferred from another location,

[13] While more analysis is needed, this discussion makes clear that a job created or saved did not mean anything similar across all or even most respondents. This makes aggregation of figures across stimulus recipients particularly difficult.

We should note that respondents across the board generally expressed high levels of satisfaction with the contract officers and other federal employees whose job it was to help respondents report in an accurate and timely fashion. Most respondents who indicated an opinion on the matter suggested that these bureaucrats worked very hard to implement a new and evolving program, and that confusion about obligation and spending deadlines, reporting, and appropriate uses of the stimulus funds were not due to incompetence at the local agency level. However, as noted later, some respondents indicated that they believed these bureaucrats were overworked and had difficulty conducting appropriate oversight as a result.

one hire came from a full-time job in the private sector, and one had been employed elsewhere in a temporary job.

Perhaps, one might say, those *other* companies whose workers were poached ultimately hired people from the unemployment line, and perhaps future research can find out the extent to which that actually happened. In any case, the process of hiring good workers takes time, and that eats up the short time wherein free-lunch Keynesianism can work.[14] And if, as is the case of the construction engineering firm discussed above, only a third of a company's new hires come from unemployment, then it is quite a lot to hope that some *other* firm will actually hire the unemployed.

Moreover, job switching is not costless. When companies lose workers to stimulus-funded firms, they lose valuable skills and experience, what economists call "organizational capital." So when a mid-level manager who understands the company's database program switches jobs, or when an engineer with valuable contacts moves to the ARRA-funded engineering firm, the old firm is left weaker. The unseen effects of ARRA need to be counted, and the employees lost by other firms are among those costs.
A reality-based stimulus accounting would certainly calculate at least two numbers: "jobs created" and "jobs shifted." For the engineering firm from the previous section that hired 20 new people, there would have been 6 "jobs created" and 14 "jobs shifted." If the raided firms ultimately hired unemployed workers—a speculation at this point—then second-round effects of stimulus might raise the "jobs created" figure.

Our interviews did not provide enough information to create a full, firm-by-firm account of job creation versus job shifting. The organizations we interviewed often didn't reveal or didn't know if their new hires were unemployed beforehand; but in some cases, they pointed out that they either hired workers from the private sector or brought retirees back into the labor force. More often, firms just told us they hadn't created that many jobs—they just used their own workers more[15] and just hired some temps for a few days or weeks.

Job shifting into an ARRA-funded job would be particularly attractive to many workers because the terms of the statute often required ARRA-funded jobs to pay so-called "prevailing wages," or "Davis-Bacon wages," which are typically equivalent to union-level wages. This is great news for the worker who gets the job, but it's usually bad news for the national economy. When the government-set prevailing wage is higher than the

[14] When asked about hiring recently compared with hiring several years ago, many respondents noted that for every advertised position, many more resumes came in today than in years past.

[15] If stimulus-funded firms produce their extra output largely by using their own full-time workers harder—a common theme in interviews—then as a matter of accounting stimulus funds would largely accrue to owners as higher profits. When firms hold onto little-used workers during a recession, Keynesians refer to this as "labor hoarding."

market wage, then as a matter of arithmetic, stimulus funds purchase less output than if firms could pay the market wage.[16]

For example, one local government manager told us he could only do energy-saving retrofits of 10 schools instead of 14 because the government-mandated wages were so much higher than the going construction wage in his area. In this case, Davis-Bacon rules *alone* cut the immediate public benefits of stimulus by 40 percent.[17]

As mentioned above, we also found evidence that ARRA often created work without creating jobs: we heard many versions of, "Things were slow until the stimulus money came along; ARRA gave our employees something to do." In Keynesian terms, these organizations were *labor hoarding*, holding onto workers through the slowdown even though they didn't have much work to do. In these cases, ARRA funds boosted profits by plugging a hole in the company's revenue stream; whether or not ARRA actually saved jobs at labor-hoarding firms is still a matter of speculation.

To summarize our job creation findings: job switching: yes; giving a company's current workers more to do: certainly. But hiring people from unemployment was more the exception than the rule in our interviews.

The Tradeoff between Speed and Quality

"It's not for the good of the project to insist" on the Department of Energy's fast timeline.
—Owner of an energy engineering firm.

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[16] One public-sector manager also complained that the Davis-Bacon Act entails significant monitoring costs, because she has to review the payrolls of the firms her office hires to ensure that they are paying Davis-Bacon wages. This is particularly difficult for jobs that defy easy classification.

[17] But there's more bad news: as economists Quadrini and Trigari showed in an important paper, if workers know that government-funded jobs have better pay and benefits, and if good private-sector jobs are harder to come by in recessions—both obviously true claims—then government stimulus not only shrinks the private sector; it may even shrink the overall economy, as the unemployed spend a couple of extra weeks searching for Davis-Bacon jobs before they finally give up and take a job not covered by prevailing wage laws.

Did anything like this happen to our organizations? Yes. For instance, a government contractor that did back-office work for a federal agency hired a bank vice president and a manager at a retail store, for instance. Again, this was great news for these two workers—they got better jobs, in their view—but they shrunk the private sector when they switched jobs. Our interviews never focused on this question, and certainly some workers would be reluctant to share their full work history with their employer, but at least four organizations were aware of hiring people away from private-sector jobs.

Another example: A stimulus recipient received a large grant after emphasizing the high unemployment rate in the region. Of the five workers they hired, two were retirees called back to work, two came from lower-paid private sector work, and one was shifted from elsewhere in the large organization. Of course, the reason was clear: the organizations wanted expertise, and the unemployed are a gamble. This illustrates just how hard it is for Keynesianism to work in practice.

At least 12 of the respondents brought up concerns about the quality of stimulus-funded projects relative to other public projects. Some said that the federal government's push to spend money was hurting the project's quality; several said stimulus dollars were funding projects that were far down the list of needs, and a few voiced a general worry that while *they* were doing good work, they thought the government workers overseeing ARRA were so overworked that it was bound to hurt quality.

To some extent the tradeoff was a result of the ill-defined goal of being "shovel-ready." Several respondents suggested that this was not a meaningful phrase for the large infrastructure projects that the popular imagination considered ARRA to be funding. For instance, one state transportation manager suggested that "shovel ready" was an arbitrary distinction that did not comport with the realities of infrastructure building, saying, "It takes years of permitting work, environmental analysis, et cetera, to get to the shovel ready stage, and millions of dollars. Who's going to get that far and then stop on a project that's really important? It doesn't make sense." Another public-sector manager said of a major infrastructure project for which his agency received ARRA funding, "We were going to move forward with the project whether or not we had ARRA money." Had ARRA not paid for the project, he reported that they would have sold bonds or taken out federal Railroad Rehabilitation and Improvement Financing loans.

Many respondents reported that ARRA project bids took place on a compressed timeline, which created a substantial hurdle for bidding firms. One construction firm owner reported that the typical 30-day bidding timeline had been compressed to two weeks. As a result, it's unlikely the government is getting the maximum "bang for the buck." However, one engineering firm owner suggested that the compressed timeline saved public dollars because expensive bid materials and plans had to be sent to fewer firms than would normally request them. Of course, fewer bidders meant less competition, an outcome with obvious costs.

The Least Useful Thing: A Lack of Knowledge or a Lack of Concern?

We received ARRA funds for "the last thing on our list; and truthfully, the least useful thing," a crane and a forklift.
—Manager of a large construction company

ARRA tends to "take us away from our core priorities."
—City redevelopment manager

Some stimulus recipients, while grateful for the funding during a tough time, lamented that the federal government didn't let them spend the money in what they perceived to be the best way possible, funding projects that were far down their list of need. One business improvement district manager called this "the conceit of the federal government."[18] These local managers with local knowledge surely have their own biases, but they also possess valuable information that was lost in the ARRA's quest for speed.

[18] She further noted the tension she felt between the federal government's pressure to spend money quickly and the rules, regulations, strictures, and requirements placed on the use of that money.

As the manager of a non-governmental retraining program for newly disabled workers put it, the "government didn't ask what we needed." The ARRA approach was, "Here's the money, and here's what you're going to do with it." This manager wanted to hire job coaches who would serve as case managers, helping disabled workers adjust in real-time to their new jobs, but ARRA would only fund instructors, people who would work at the facility in classroom settings. The manager's on-the-ground knowledge about how to get results was rejected.

Likewise, in the public sector some interviewees felt that federal policy failed to take local needs into account. A manager in a mid-size city reflected that her community had laid off 185 workers but received $4 million for energy efficiency programs, saying "It's like we're bleeding out of one side and getting $4 million on the other."

Tiny Tiles

Sometimes it was hard for recipients to put a finger on just what was wrong, but their years of experience told them something was amiss. One federal contractor who installed tile in government buildings said that he had planned to install some typical four-inch white tile, the kind he had used in countless government projects beforehand—the very tiles specified in the architectural renderings. But a revised project specification issued by the contracting agency required him to use a smaller, more intricate set of colored tiles. The contractor told our team that installing the smaller tiles would increase his labor costs alone by 50 percent and the only reason he could see for using the smaller tiles was to move the money out the door on the ARRA schedule.

Installing tiny tiles isn't quite as bad as digging ditches in the morning and filling them up in the afternoon—at least the government got some nice tiles. But this practice almost surely adds too little value to justify the cost. Accordingly, the link between funds spent and value created is not as direct as proponents of fiscal stimulus often assume, especially when the government is in a hurry to get the money out the door. [19] Some unknown percentage of ARRA funding was spent through the "tiny tiles" method of boosting government spending, and the government should reduce estimates of the value created by ARRA for taxpayers accordingly.[20]

Relabeling Existing Projects as ARRA

At the same time, some firms working on indefinite delivery/indefinite quantity contracts (IDICs) and indefinite quantity contracts (IQCs) told of already won task orders that the

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[19] For more on the possible disconnect between government spending and value creation as reflected in national income statistics, see Tyler Cowen, *The Great Stagnation: How America Ate All The Low-Hanging Fruit of Modern History, Got Sick, and Will (Eventually) Feel Better*, Kindle eBook, 2011.

[20] More organizations emphasized how there was intense pressure to get "the money out the door" as quickly as possible. That expression has turned up 12 times in the interview notes. This makes Keynesian sense, as long as no quality tradeoffs exist.

contracting agencies changed at the last minute to be ARRA-funded task orders.[21] This alternation didn't substantively change the requirements under the task order, but it does indicate that some ARRA spending was not additional spending at all. Rather, it went to fund already scheduled, if not already underway, projects. This phenomenon needs further examination.

A Good (and Idle) Firm is Hard to Find

Six of the organizations we interviewed, primarily engineering firms, said that there was little or no change in their work level due to the stimulus. They were niche firms with services in high demand. When they took ARRA work, they were turning down other work. These six were an extreme version of what many firms told our teams: The lunch wasn't nearly as free as advertised. Tradeoffs mattered, and skilled firms and workers were scarce even in a world of 10 percent unemployment.

From the perspective of normal government efficiency and accountability, hiring skilled and reliable firms is good federal contracting practice: if the federal government finds a high-quality firm, there's good reason to stick with them. But when the ostensible goal of ARRA spending is "targeting" slack sectors of the economy, this contracting is a complete Keynesian failure.

Unfortunately for Keynesian theory, no contract officer wants a scandal, especially on a high-profile program such as ARRA, so funding will flow to firms least likely to create boondoggles. That means funds will often go to firms that are already quite likely to be busy, firms that are likely to stick to trusted workers, firms that are unlikely to take a chance on the long-term unemployed.

The "good (and idle) firm is hard to find" theory would help explain why job creation among the firms we interviewed was so low: the federal government preferentially hired good, and often busy firms, so instead of massive Keynesian ramping-up, firms did just what neoclassical economists would expect: they smoothed out their workload, turning down other work to take ARRA projects.

Red Tape: Driving Out the Best Firms?

"Some contractors really have avoided ARRA contracts simply because of the reporting requirements."
—Owner of a Veteran-Owned Construction Firm

Many of the firms our teams interviewed complained about ARRA's detailed reporting requirements, especially the time and energy required to learn the reporting system. While there's room for improvement, such complaints seem to stem from the nature of bureaucracy, not failures of Keynesian theory. Once they learned what reporting entailed and how to calculate their job creation statistics, respondents found ARRA's additional

[21] IDICs and IDQs are contract types established by the Federal Acquisition Regulations (FARs) for use when an unknown quantity of a service or supplies is needed. Under these types of contracts, a pre-approved list of vendors bids on specific jobs ("task orders") as they come up.

reporting requirements a minor hassle. But, minor though they may be, the quote above shows how the ARRA's new levels of red tape could hurt the economy. The government could well push contracts toward firms that are especially good at handling federal contracting rules.

If the firms best at handling federal rules are also the most efficient firms, then there's no cost for the economy. But such a perfect relationship is unlikely. Our interviews showed that firms that were best at navigating federal websites, at glad-handing federal bureaucrats, and at jumping through the oft-changing government rules were more likely to win contracts.[22] As one small business owner put it, "You had to be already at the trough waiting for it."[23]

Some respondents also cited their status as SBA Section 8a small businesses, service disabled veteran owned small businesses, and minority-owned and women-owned businesses as keys to success in winning contracts. All of these *de facto* and *de jure* screening methods focus on something other than the quality of final output.

While our interviewees almost always seemed competent and qualified to our interview teams, a mere 20 minute interview can't tell us which firms are best and which are worst. But we can be sure that since ARRA's funding methods focused on something other than the highest-quality output, the taxpayers received something other than the highest-quality output. Federal Acquisition Regulations (FARs) and the theory of stimulus spending in many ways pointed in opposite directions.

In small ways and large, the good-government provisions of ARRA made it harder for the stimulus to be "targeted" at the firms best able to produce value for the taxpayer in "timely" manner, a goal all the more difficult because the program was "temporary." Good governance and Summers's Three T's of successful Keynesian stimulus repeatedly came into conflict.

GDP with an Asterisk?

These stories of quality problems were common enough that federal statisticians should incorporate this into its official price index for government purchases. A price index tells us how much value is contained in a dollar of spending: by definition, a higher price index means less value. A price index can rise for simple reasons—gasoline getting more expensive, to pick a straightforward example. Or it can rise for more subtle reasons; for instance, if the quality of the orange crop falls, so you have to buy 20 percent more oranges to make the same amount of orange juice, then the orange juice "price index" would rise by 20 percent.

[22] One assisted-living facility turned down an extra $15,000 per stimulus-funded worker because they couldn't navigate the ARRA bureaucracy.

[23] Another small business owner, when asked to provide advice to other small businesses wishing to receive government contracts, offered this advice: "Once you figure out how to skin it, then you'll be able to do it over and over and over and over and over again." That is, there's a high initial cost to learning how to bid on federal contracts, but once you understand the system it becomes simple.

The Bureau of Economic Analysis creates specialized price indices for government output; these are intended to measure changes in the quality of government-bought goods and services over time. If ARRA-funded output turns out to be 10 percent or 20 percent less useful than typical government purchases—entirely plausible, based on the number of concerns our teams heard—then this would be far too big to ignore. The price index for federal, state, and local government purchases is table 3.10.4 of the National Income and Product Accounts: it is almost surely in need of an upward revision for the ARRA period.

The economist Robert Higgs has drawn attention to the very real problems with GDP measures from World War II;[24] based on our surveys, related problems—perhaps on a smaller scale, perhaps larger—were at work with stimulus funding. The quest for speed and a lack of high-quality, shovel-ready projects meant that the taxpayer likely received less value than usual from federal dollars.

"No Such Thing as Shovel-Ready Projects"

Table 2 sums up some basic descriptive statistics from our interview sample. Some federal contractors, maybe most, took the stimulus funding in stride, and hired at least a few unemployed workers, boosting wages and profits. But for at least a third, the stimulus failed the theoretical assumptions of Keynesianism in important ways. Based on our first-of-its-kind interviews, whatever "multiplier effect" economists expected from the American Reinvestment and Recovery Act should be adjusted downward.

Table 2: Sample Descriptive Statistics

	N	Mean	Median
Total firms interviewed	85		
Firms who provided info on jobs created/ saved	59		
If provided info, firms that created/saved jobs	41		
If provided info, firms that saved jobs	23		
If provided info, firms that created jobs	30		
If provided info, firms with zero created/saved jobs	18		

[24] Robert Higgs, "Wartime Prosperity? A Reassessment of the U.S. Economy in the 1940s," *Depression, War, and Cold War*, New York: Oxford University Press, 2006. Higgs's work draws upon Simon Kuznet's national product estimates, which Kuznets found to be overstated during World War II due to "overpricing of certain types of war production." Kuznets, Simon, National Product in Wartime (New York, 1945). The tiny tiles were likely similarly overpriced.

Total jobs created/saved	1,076.84	18.25	2.00
Sector			
Commercial	40		
Nonprofit	34		
Public	11		
Interviewees' gender[25]			
Women	43		
Men	55		
Volunteered that stimulus led to lower-quality output	12		

Source: Interviews conducted by staff of the Mercatus Center at George Mason University, August-November 2010. These numbers subject to minor revision as audiotapes are further analyzed.

[25] The total sums to more than the number of interviews as some interviews had more than one interviewee.

Appendix: Additional Methodological Information

We conducted interviews with 85 different firms, nonprofits, and local government organizations across five MSAs. Our first major methodological decision was selecting the locations where we would conduct interviews. Clearly it would be logistically impossible to have a survey that was geographically random, so we selected five MSAs in which to conduct interviews. Aside from the mid-Atlantic MSA, which was chosen due to geographical convenience, the other four were selected in order to have one area that matched each cell in this 2x2 matrix:

Table 3:

<table>
<tr><td colspan="2" rowspan="2"></td><td colspan="2">Per capita cyclical unemployment rate</td></tr>
<tr><td>High</td><td>Low</td></tr>
<tr><td rowspan="2">Per capita ARRA funding received</td><td>High</td><td>I</td><td>II</td></tr>
<tr><td>Low</td><td>III</td><td>IV</td></tr>
</table>

In this way, we avoided biasing our sample pool by, for instance, only interviewing recipients in low-unemployment, high-funding areas. This serves a similar purpose in qualitative data collection to holding factors constant in quantitative analysis.

We calculated cyclical unemployment as the difference between the mean monthly unemployment rate in the MSA in 2009 and the mean monthly unemployment rate in the MSA from January 2000 through December 2007. This allowed us to differentiate areas suffering from high cyclical unemployment, which Keynesian policies claim to remedy, from areas with high structural unemployment, which Keynesian theory does not claim to affect. We did not consider structural or seasonal unemployment in our MSA calculations.

In order to fit one of the four quadrants, a metropolitan statistical area (MSA) must have received per capita ARRA funding and have had a per capita cyclical unemployment rate that was either above (for high-level area) or below (for low-level area) the national median. This amount had to be at least 0.4 percentage points from the median in the case of unemployment and 7 percent from the median in the case of per-capita ARRA funding. In no case, however, was either amount to be more than one standard deviation from the national median; we were not seeking strong differentiation. Additionally, we excluded state capitals and MSAs where more than 35 percent of the local economy was based on a particular industry, the former because of the pass-through nature of many state-level grants and the latter due to concerns about overrepresenting certain industries. Finally, we excluded any MSA with fewer than 1,000 total prime and sub recipient grants, and made the final selection to maximize regional diversity.

Once we selected the MSAs, we sent a letter out to all non-governmental ARRA recipients whose place of performance as reported on Recovery.gov fell within the MSAs. The letter told recipients about our project and asked them to call or email us if they would consent to an interview. (In order to remove most public-sector respondents from our sample, we eliminated all ARRA recipients with NAICS codes of 92000 higher or the words “City of,” “Town of,” “County of,” “Village or,” or similar language from the names.) In some MSAs, we excluded particularly geographically remote areas that would have been more than about an hour by car from the MSA’s main city in order to minimize travel time and maximize the number of interviews we could conduct. We also excluded some parts of MSAs that we had reason to believe had received ARRA funds to repair infrastructure damaged in recent natural disasters, as we hypothesized that post-disaster reconstruction was qualitatively different than (and controlled by a number of different statutes and regulations than) Keynesian-style fiscal stimulus. We sent these letters approximately 10–14 days before our planned travel to the areas.

In no MSA did we fully book our schedule with respondents to our initial letter, so we followed by phone and/or email approximately three days prior to our arrival and as our schedules permitted. In the follow-up process, we privileged nonprofit groups and commercial firms with higher levels of funding for several reasons. First, nonprofit groups and commercial firms were more likely than public-sector recipients to actually spend the funds themselves rather than acting as pass-throughs and were thus more likely to have made hiring and investment decisions based on ARRA funds. Indeed, many of the firms and nonprofits we interviewed received their funds through state or local governments as subcontractors. Second, we identified early on that there was a wider variance in experiences outside the public sector. Third, we believe the question of ARRA funding to states and municipalities is fundamentally a story of intergovernmental transfers, a story already ably explored by existing public administration and economics literature.

This sample may or may not be statistically representative of ARRA recipients nationally on any number of margins. Our interview selection process was not random since it is not feasible to collect interviews in dozens of different MSAs, nor is it possible (or desirable) to compel people to conduct an interview. Our sample, then, was geographically selected for convenience (subject to the aforementioned controls) of people who were amenable (for whatever reasons) to discussing their business practices and interaction with public policy with two strangers from a university-based research center in another state.

However, we have no reason to believe that our sample is anything other than representative. For one thing, we see no reason that the potential selection biases would be covariates of our subjects of interest. For instance, it is hard to see why willingness to speak with interviewers would correlate with number of jobs created. One possible hypothesis, that individuals with particularly strong feelings about their experiences with ARRA were more likely to respond than those with weaker feelings, seems unlikely to bias the sample as those with strongly positive (“it saved my business”) and strongly negative (“waste of taxpayer money”) feelings about ARRA and Keynesian policy more broadly would cancel each other out. Moreover, it simply wasn’t empirically borne out: few respondents offered such strong reactions one way or the other. So while high variance is a theoretical possibility, our respondents’ views on ARRA were certainly more moderate than public debates over the legislation’s effects.

Additionally, it became clear to the research team approximately halfway through the interviewing process that we were regularly seeing recurring themes. Indeed, for many respondents we could accurately predict many of the major outlines of their experience based on the size of their firm, industry, and location.

Unfortunately, due to the ethics of qualitative interviewing and the policies of the George Mason University Human Subjects Review Board, we are unable to release the transcripts of these interviews.