



FEDERAL INFRASTRUCTURE SPENDING: NEITHER A GOOD STIMULUS NOR A GOOD INVESTMENT NOVEMBER 16, 2011

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Joint Economic Committee
Hearing on the Impact of Infrastructure on the Manufacturing Sector

Good afternoon, Chairman Casey, Vice Chairman Brady, and members of the committee. It is a privilege to be here today to discuss the important topic of government-funded infrastructure spending and economic growth. My name is Veronique de Rugy. I am a senior research fellow at the Mercatus Center at George Mason University where I study tax and budget issues.

Three years into the deepest recession since World War II, the U.S. economy is growing at a slower pace than the population, and per capita output continues to fall.¹

In response, the President has announced a plan for yet more deficit-financed stimulus spending.² Like the two previous stimulus bills, this one focuses on infrastructure spending. The President's plan is rooted in the belief that stimulus spending and deeper deficits will give the economy the lift it needs to create more jobs. The hope is that, eventually, the economy will grow fast enough to allow the government to begin to pay down the national debt.

Today I would like to address three important issues. First, infrastructure spending is a particularly bad vehicle for stimulus. Second, while no one disputes the value of good infrastructure, public work projects typically suffer from massive cost overruns, waste, fraud, and abuse. Finally, some alternatives to a federal investment in infrastructure exist, such as public private partnerships, privatization, or simple devolution to the states.

Section 1. Infrastructure spending can't stimulate the economy

According to Keynesian economic theory, a fall in demand causes a fall in spending. Since one person's spending is someone else's income, a fall in demand makes a nation poorer. When that poorer nation prudently cuts back on spending, it sets off yet another wave of falling income. So, a big shock to consumer spending or business confidence can set off waves of job losses and layoffs.

Can anything stop this cycle? Keynesians say yes: government spending can take the place of private spending during a crisis. If the government increases its own spending, it will create new jobs. These new workers should consume more, and businesses should then buy more machines and equipment to meet the demands of government and the revitalized public.

This increase in gross domestic product is what economists call *the multiplier effect*. It means that one dollar of government spending will end up creating *more* than a dollar of new national income. This spending can

¹ Bureau of Economic Analysis, "News Release," August 26, 2011, http://www.bea.gov/newsreleases/national/gdp/2011/pdf/gdp2q11_2nd.pdf.

² Mark Landler and Jackie Calmes, "Obama Stumps for Jobs Plan, Calling for 'Action Now'," *New York Times*, September 9, 2011, http://www.nytimes.com/2011/09/10/us/politics/10obama.html?_r=1&hp.

take a number of forms: public service employment, cash transfers, state revenue sharing, or infrastructure projects.

As it turns out, as appealing as the Keynesian story sounds, there is little consensus among economists about its accuracy. Moreover, a survey of the economic literature on the impact of infrastructure spending on the economy reveals that economists are far from having reached a consensus about the actual returns on such spending.³ In this paper, my colleague Matt Mitchell and I discover that some respected economists find large positive multipliers (every dollar in government spending means more than a dollar of economic growth) but others find negative multipliers (every dollar spend hurts the economy).⁴ The range is wide, going from 3.7 to -2.88.⁵ While this diversity of opinion could be explained in part by the wide range of circumstances in which stimulus might be applied (open or closed economy, fixed or flexible exchange rates, level of countries' indebtedness, the level of interest rates, whether or not the stimulus spending is temporary or permanent, and whether or not it is a large or a small stimulus . . .),⁶ nonetheless, as a recent International Monetary Fund (IMF) working paper puts it, "Economists have offered an embarrassingly wide range of estimated multipliers."⁷

However, the most important reasons to be skeptical about further stimulus—particularly infrastructure stimulus—have to do with the way it is implemented.⁸ As a general rule, the studies that obtain large multipliers do so by assuming that stimulus funds will be distributed just as Keynesian theory says they ought to be. In the words of Keynesian economist and former presidential economic advisor Lawrence Summers, fiscal stimulus "can be counterproductive if it is not timely, targeted, and temporary."⁹ Infrastructure spending cannot fulfill these criteria.

Infrastructure spending is not timely

By nature, infrastructure spending is not timely. Even when the money is available, it can be months, if not years, before it is spent. This is because infrastructure projects involve planning, bidding, contracting, construction, and evaluation.¹⁰ According to the GAO, as of June 2011, 95 percent of the \$45 billion in Department of Transportation infrastructure stimulus money had been appropriated, but only 62 percent (\$28 billion) had actually been spent.¹¹

Infrastructure spending is not targeted

Second, the only thing harder than getting the money out the door promptly is properly targeting spending for stimulative effect. Data from Recovery.gov shows that stimulus money in general—and infrastructure funds in particular—were not targeted to those areas with the highest rate in unemployment, something correct application of the Keynesian theory demands as the idea is that stimulus spending gives the economy a jolt by employing idle people, firms, and equipment.¹²

³ Veronique de Rugy and Matt Mitchell, "Would More Infrastructure Spending Stimulate the Economy?" (working paper, Mercatus Center at George Mason University, Arlington, VA, 2011), http://mercatus.org/sites/default/files/publication/infrastructure_deRugy_WP_9-12-11.pdf. Most of the first two sections of this testimony flow from this paper.

⁴ Ibid.

⁵ Ibid.

⁶ Ibid.

⁷ Eric Leeper, Todd Walker, and Shu-Chun Yang, "Government Investment and Fiscal Stimulus," (working paper, International Monetary Fund, 2010), <http://www.imf.org/external/pubs/ft/wp/2010/wp10229.pdf>.

⁸ Ibid.

⁹ Lawrence Summers, "The State of the U.S. Economy," *Brookings Institution Forum*, December 19, 2007.

¹⁰ See Leeper, Walker, and Yang for more details.

¹¹ Government Accountability Office, "Recovery Act: Funding Used for Transportation Infrastructure Projects, but Some Requirements Proved Challenging," GAO 11-600, June 29, 2011, <http://www.gao.gov/new.items/d11600.pdf>.

¹² Veronique de Rugy, "Stimulus Facts—Period 2," (working paper, Mercatus Center at George Mason University, Arlington, VA, 2010), http://mercatus.org/sites/default/files/publication/WP1015_Stimulus%20Facts%202.pdf; Jason Reifler and Jeffrey Lazarus, "Partisanship and Policy Priorities in the Distribution of Economic Stimulus Funds," (working paper, September 2010), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1670161; Jennifer LaFleur and Matt Grabell, "Stimulus Infrastructure Funding Short-Changes States with High Unemployment," *Pro Publica*, February 2009, <http://www.propublica.org/special/stimulus->

However, even properly aimed infrastructure spending might have failed to stimulate the economy. Many of the areas hardest hit by the recession are in decline because they have been producing goods and services that are not, and may never be, in great demand. Therefore, the overall value added by improving the roads and other infrastructure in these areas is likely to be lower than if the new infrastructure were located in growing areas that might have relatively low unemployment but greater demand for more roads, schools, and other types of long-term infrastructure.¹³

Perhaps more importantly, unemployment rates among specialists, such as those with the skills to build roads or schools, are often relatively low. And it is unlikely that an employee specialized in residential-area construction can easily update his or her skills to include building highways. As a result, we can expect that firms receiving stimulus funds will hire their workers away from other construction sites where they were employed, rather than plucking the jobless from the unemployment rolls. This is what economists call “crowding out.” Except that in this case, labor, not capital, is being crowded out.

New data from Mercatus Center professor Garret Jones and AEI staffer Dan Rothschild confirm that companies and governments used stimulus money to poach a plurality of workers from other organizations rather than hiring them from the unemployment lines.¹⁴ Based on extensive field research—over 1,300 anonymous, voluntary responses from managers and employees—Jones and Rothschild bring to light the fact that less than half of the workers hired with stimulus funds were unemployed at the time they were hired. A majority were hired directly from other organizations, with just a handful coming from school or outside the labor force. In email correspondence, Garrett Jones further explains that during recessions most employers who lose workers to poaching decline to fill the vacant positions—leaving unemployment essentially unchanged.

Infrastructure spending isn't temporary

Finally, even in Keynesian models, stimulus is only effective as a short-run measure. In fact, Keynesians also call for surpluses during an upswing.¹⁵ In reality, however, the political process prefers to implement the first Keynesian prescription (deficit-financed spending) but not the second (surpluses to pay off the debt).¹⁶ The inevitable result is a persistent deficit that, year-in, year-out, adds to the national debt.¹⁷ A review of historical stimulus efforts has shown that temporary stimulus spending tends to linger and that two years after an initial stimulus, 95 percent of the spending surge remains.¹⁸

To be sure, a certain amount of public spending on public works is necessary to perform essential government functions. But spending on roads, rails, and bridges as a means of providing employment or creating economic growth is unlikely to be effective.

Section 2. Federal infrastructure spending rarely makes for good investments

[unemployment-chart-and-map](#); and Robert Inman, “States in Fiscal Distress,” (working paper, National Bureau of Economic Research, 2010), <http://www.nber.org/papers/w16086>.

¹³ Gary Becker, “Infrastructure in a Stimulus Package,” Becker-Posner Blog, January 18th 2009.

<http://gregmankiw.blogspot.com/2009/01/infrastructure-spending-as-stimulus.html>.

¹⁴ Garrett Jones and Daniel Rothschild, “Did Stimulus Dollars Hire the Unemployed? Answers to Questions About the American Recovery and Reinvestment Act,” (working paper, Mercatus Center at George Mason University, Arlington, VA, 2011), http://mercatus.org/sites/default/files/publication/Did_Stimulus_Dollars_Hire_The_Unemployed_Jones_Rothschild_WP34.pdf.

¹⁵ Paul Krugman, “Hard Keynesianism,” The Conscience of a Liberal, *The New York Times*, May 2, 2011, <http://krugman.blogs.nytimes.com/2011/05/02/hard-keynesianism/>.

¹⁶ John Cullis and Phillip Jones, *Public Finance and Public Choice*, Second Edition (New York: Oxford University Press, 1998), Chapter 14.

¹⁷ Office of Management and Budget, Historical Tables, Table 1.2, <http://www.whitehouse.gov/omb/budget/Historicals/>. If the federal government followed the full Keynesian prescription, then it would have run a primary deficit during most of the last 40 years. Instead, the federal government ran a primary deficit 66 percent of the time. When interest payments are counted as expenses, the government ran a deficit 95 percent of the time.

¹⁸ Olivier Blanchard and Roberto Perotti, “An Empirical Characterization of the Dynamic Effects of Changes in Government Spending and Taxes on Output,” *The Quarterly Journal of Economics*, v. 117 no. 4 (2002): 1329–368, <http://ideas.repec.org/a/tpr/qjecon/v117y2002i4p1329-1368.html>.

Economists have long recognized the value of building highways, bridges, airports, and canals as they are the conduits through which goods are exchanged and hence a source of economic growth. This explains the general support for federally funded infrastructure on both sides of the political aisle. Unfortunately, government funded infrastructure projects don't often make for good investments either.

First, infrastructure spending by the federal government tends to suffer from massive cost overruns, waste, fraud, and abuse. As a result, many projects that look good on paper turn out to have much lower return on investments than planned.

A comprehensive 2002 study by Danish economists Bent Flyvbjerg, Mette K. Skamris Holm, and Søren L. Buhl examined 20 nations on five continents and found that nine out of ten public works projects come in over budget.¹⁹ For rail, the average cost is 44.7 percent greater than the estimated cost at the time the decision is made. For bridges and tunnels, the equivalent figure is 33.8 percent, and for roads 20.4 percent.²⁰

These cost overruns dramatically increase infrastructure spending. On average, U.S. cost-overruns reached \$55 billion per year.²¹ Even if they lead to localized job growth, these investments are usually inefficient uses of public resources. According to the Danish researchers, American cost overruns reached on average \$55 billion per year. This figure includes famous disasters like the Central Artery/Tunnel Project (CA/T), better known as the Boston Big Dig.²² By the time the Beantown highway project—the most expensive in American history—was completed in 2008, its price tag was a staggering \$22 billion. The estimated cost in 1985 was \$2.8 billion. The Big Dig also wrapped up 7 years behind schedule.

Unfortunately, studies have shown that project promoters routinely ignore, hide, or otherwise leave out important project costs and risks to make total costs appear lower.²³ Researchers refer to this as the “planning fallacy” or the “optimism bias.” Scholars have also found that it can be politically rewarding to lie about the costs and benefits of a project. The data show that the political process is more likely to give funding to managers who underestimate the costs and overestimate the benefits. In other words, it is not the best projects that get implemented but the ones that look the best on paper.²⁴

In addition, inaccurate estimates of demand contribute to consistent underestimation of public projects: A study of 208 projects in 14 nations shows that 9 out of 10 rail projects overestimate the actual traffic.²⁵ Moreover, 84 percent of rail-passenger forecasts are wrong by more than 20 percent. Thus, for rail, passenger traffic averages 51.4 percent less than estimated traffic.²⁶ This means that there is a systematic tendency to overestimate rail revenues. For roads, actual vehicle traffic is on average 9.5 percent *higher* than forecasted traffic, and 50 percent of road traffic forecasts are wrong by more than 20 percent.²⁷ In this case, there is a systematic tendency to *underestimate* the financial and congestion costs of roads.

¹⁹ Bent Flyvbjerg, Mette K. Skamris Holm, and Søren L. Buhl, “Underestimating Costs in Public Works Projects: Error or Lie?” *Journal of the American Planning Association*, vol. 68, no. 3, (Summer 2002): 279–25.

²⁰ *Ibid.*

²¹ The Capitol Hill Visitor Center, an ambitious three-floor underground facility originally scheduled to open at the end of 2005, was delayed until 2008. The price tag leapt from an estimated \$265 million in 2000 to a final cost of \$621 million.

²² Chris Edwards, “Government Schemes Cost More Than Promised,” *Tax and Budget Bulletin* 17 (Washington, DC: Cato Institute, September 2003), <http://www.cato.org/pubs/tbb/tbb-0309-17.pdf>.

²³ Bent Flyvbjerg, “Design by Deception: The Politics of Megaproject Approval,” *Harvard Design Magazine*, no. 22, (Spring/Summer 2005): 50–9. See also, Flyvbjerg, “Machiavellian Megaprojects,” *Antipode*, vol. 37, no. 1, (January 2005): 18–22 and Flyvbjerg, “Megaprojects and Risk: An Anatomy of Ambition,” *The Sociologist*, vol. 1, no. 1 (Summer 2004): 50–5. See also Bent Flyvbjerg, Mette K. Skamris Holm, and Søren L. Buhl, “What Causes Cost Overrun in Transport Infrastructure Projects?” *Transport Reviews*, vol. 24, no. 1 (January 2004): 3–18.

²⁴ Bent Flyvbjerg, “Survival of the Unfittest: Why the Worst Infrastructure Gets Built—And What We Can Do about It,” *Oxford Review of Economic Policy*, vol. 25, no. 3 (2009): 344–67, <http://www.sbs.ox.ac.uk/centres/bt/Documents/UnfittestOXREPHelm3.4PRINT.pdf>.

²⁵ Bent Flyvbjerg, “Measuring Inaccuracy in Travel Demand Forecasting: Methodological Considerations Regarding Ramp Up and Sampling,” *Transportation Research A*, vol. 39 no. 6, (2005): 522–30.

²⁶ Bent Flyvbjerg, Mette Skamris Holm, and Søren L. Buhl, “How (In) accurate are Demand Forecasts in Public Works Projects? The Case of Transportation,” *Journal of the American Planning Association*, vol. 71, no. 2 (Spring 2005): 131–46.

²⁷ *Ibid.*

Finally, other factors contribute to increasing the costs of public infrastructure spending and making it harder to be profitable. For instance, federal “prevailing-wage” requirements (such as the ones imposed by the Davis Bacon Act) require that construction workers employed by private contractors on public projects be paid at least the wages and benefits that are “prevailing” for similar work in or near the locality in which the project is located.²⁸

To the extent that the prevailing-wage is above the market wage, the laws may impose financial costs both through increased wage bills for construction projects and an inefficient mix of capital and labor and of different types of workers. However, because public construction accounts for between one-fifth and one-quarter of all construction, and because prevailing-wage laws cover a substantial number of private projects undertaken with public financing or assistance, prevailing-wage laws may also affect construction labor markets more broadly.

In a paper called “Prevailing Wage Laws and Construction Labor Markets,” economists Daniel Kessler and Lawrence Katz examine the consequences of several states’ repeal of their prevailing-wage laws in the 1970s and 1980s.²⁹ By comparing trends in construction labor markets in “repeal” states to trends in labor markets in states that did not change their laws, they find that the average wages of construction workers (in repeal states) decline slightly after repeal—by about 2 to 4 percent.

However, they also find that the small overall impact of repeal masks substantial differences in outcomes for different groups of construction workers. The negative effects of repeal on wages are more pronounced for unionized workers who tend to benefit the most from the higher compensation provided by the prevailing-wage requirement. Kessler and Katz find, for instance, that repealing prevailing-wage laws leads to a decline of approximately 10 percentage points in the long-run union wage premium earned by construction workers, or almost half of the total union wage premium in construction. They point out, “Since union members account for approximately 25 percent of all construction workers, the 10-percentage-point decrease in the union wage premium explains almost all of the (approximately 2 to 4 percent) decline in construction workers’ wages.”³⁰

This has implications for the most recent stimulus bill, the American Recovery and Reinvestment Act. According to the GAO, \$102 billion of ARRA’s \$787 billion went toward programs covered by Davis-Bacon (40 programs in total, seven of which had never been subject to prevailing-wage laws).³¹ According to Rothschild and Jones, suspending Davis-Bacon would have created perhaps 55,000 additional federally funded jobs, funded 6 percent more projects, and hired 6 percent more workers.³² (The more one pays per worker, the fewer workers one can hire.) If ARRA had suspended Davis-Bacon, more roads could have been repaved, more houses insulated, and more levees repaired.³³

Rothschild and Jones conclude that if government jobs paid market wages, then a recession would be a great time to build roads and hospitals at a much lower cost than usual. Taxpayers could save money by hiring employees who were waiting for the private sector to improve.

In fact, in their survey they found that among public and private organizations required to pay prevailing-wages, 38.2 percent thought that they could have hired workers at wages below the Davis-Bacon prevailing-

²⁸ Davis Bacon applies to any federal contract over \$2,000 for the construction, alteration, or repair of public buildings or public works. It sets the minimum wages to be paid to various classes of laborers and mechanics employed under these contracts. Under the provisions of the Act, contractors or their subcontractors are to pay workers employed directly upon the site of the work no less than the locally prevailing wages and fringe benefits paid on projects of a similar character. The Secretary of Labor determines local prevailing wage rates. In general, these wages are comprised of two parts: a per-hour base wage and a per-hour fringe benefit allocation.

²⁹ Daniel Kessler and Lawrence Katz, “Prevailing Wage Laws and Construction Labor Markets,” *Industrial and Labor Relations Review*, Vol. 54, no. 2 (January 2001): 259–274.

³⁰ *Ibid.*, 273.

³¹ Government Accountability Office, *Recovery Act: Officials’ views vary on impacts of Davis-Bacon Act prevailing wage provision*, (Washington, DC: GAO, 2010), 2, <http://www.gao.gov/new.items/d10421.pdf>.

³² Daniel Rothschild and Garret Jones, “[Did Stimulus Dollars Hire the Unemployed?](#)” (working paper, Mercatus Center at George Mason University, 2011), 7.

³³ *Ibid.*

wage while another 17 percent were unsure. The numbers were even higher for the private-sector and non-profit organizations to which Davis-Bacon applied: 52 percent said they could have hired people at lower than the prevailing-wage.³⁴ Forcing organizations to hire at the prevailing-wage meant higher costs for the federal government and fewer jobs created.³⁵

Section 3. Alternatives to federally funded infrastructures

Economic theory suggests that private markets under-provide so called “public goods.”³⁶ As a result, the government is often believed to have a comparative advantage in the provision of public goods. Theory also suggests that private markets have a comparative advantage in providing non-public goods, goods and services that businesses can supply. Thus, having the federal government run businesses—such as Amtrak and the Postal Service—and oversee infrastructure—such as the air traffic control system—is not just inefficient, it also hinders economic growth and costs the taxpayers money while providing low-quality services to customers.³⁷

Identically, economists argue it is inefficient to have the federal government oversee roads and highway expansions as state and local governments and the private sector are better suited to oversee roads and highway expansions. In a 2009 *Policy Analysis* paper, Cato Institute urban economist Randall O’Toole explains how, with very few exceptions, most roads, bridges, and even highways are local projects (state projects at most) by nature.³⁸ In fact, a number of states have started to finance and operate highways privately. In 1995, Virginia opened the Dulles Greenway, a 14-mile highway, paid for by private bond and equity issues. Similar private highway projects have been completed, or are being pursued, in California, Maryland, Minnesota, North Carolina, South Carolina, and Texas. In Indiana, Governor Mitch Daniels leased the highways and made a \$4 billion profit for the state’s taxpayers. Consumers in Indiana were better off: the deal not only saved money, but the quality of the roads improved as they were run more efficiently.

Experiences in other countries have also shown that privatization leads to innovation and reduced congestion. In France, the A14 in Paris was funded privately and has not only managed to stay in business, but has also helped reduce traffic congestion. Furthermore, while almost all major U.S. airports are owned by state and local governments, with the federal government subsidizing airport renovation and expansion, many countries have privatized or partly privatized their airports, including Athens in Greece, Auckland in New Zealand, Brussels in Belgium, Copenhagen in Denmark, Frankfurt in German, London in the UK, Melbourne and Sydney in Australia, Naples and Rome in Italy, and Vienna in Austria.³⁹

Conclusion

Economists have long recognized the value of infrastructure. Roads, bridges, airports, canals, and other projects are the conduits through which goods are exchanged. However, it doesn’t mean that the federal government should be funding infrastructure projects. Rather, it should devolve this function to the states or, better yet, leave it to the private sector. Moreover, whatever its merits, because infrastructure spending does not provide much of a stimulus to an economy—especially if that economy needs long-term, sustainable jobs—it should not be used as a jobs program.

³⁴ Ibid.

³⁵ Rothschild and Jones, 2011.

³⁶ Typically, economists believe that “public goods” will be underprovided by private firms. A public good is one whose benefits are non-excludable and non-rivalrous. This means that private actors who provide such goods have no way of charging users, even though additional users are costless. New technologies such as wireless toll booths, however, are rapidly changing some public goods into private goods.

³⁷ Dong Fu, Lori L. Taylor, and Mine K. Yücel, “Fiscal Policy and Growth” (Federal Reserve Bank of Dallas. *Working Paper* 0301, January 2003), 10.

³⁸ Randall O’Toole, *Getting What You Paid for—Paying for What You Get: Proposals for the Next Transportation Reauthorization*, Cato Institute Policy Analysis, September 15, 2009, <http://www.cato.org/pubs/pas/pa644.pdf>.

³⁹ Chris Edwards, “Privatization,” *Cato Institute Handbook for Policymakers*, 7th Edition (Washington, DC: Cato Institute, 2009).