Voodoo Multipliers Revisited: Public Policy For Recessions and Boomtimes

PHILIP E GRAVES, University of Colorado at Boulder
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Philip E. Graves, Department of Economics UCB 256, University of Colorado, Boulder, CO 80309-0256, e-mail:Philip.Graves@colorado.edu

Philip E. Graves is a professor of economics at the University of Colorado whose most recent book is Environmental Economics: A Critique of Benefit-Cost Analysis (Rowman & Littlefield, 2007).

In a recent contribution to The Economists’ Voice, Robert J. Barro made a number of reasonable arguments indicating that the government multiplier for wartime expenditures was less than 1.0 and that the multiplier for peacetime expenditures was “statistically insignificantly different from zero.” His assertions cast great doubt on the impact of the Obama stimulus package on the economy. Indeed, if the stimulus package is comprised of many projects that would fail a properly-conducted cost-benefit test, economic welfare could take a big hit—we do not want to take high value inputs, or at least potentially high value inputs, to create low value outputs. Moreover, many rational individuals have already increased savings rates, or soon will, in anticipation of higher future tax burdens associated with the financing of large deficits, further dampening any stimulus effect.

What sort of stimulus, if any, is likely to work? One can immediately reject government provision of useful ordinary private goods—one would expect private demands to fall in proportion to government provision, leaving no stimulus. Additionally, the private sector is likely to be much more efficient at providing private goods in any event. We are left, then, with public goods...goods that would not be produced by the private sector.

But all public goods are not created equal. Two types of public goods can be rejected for a stimulus package on efficiency arguments akin to those for private goods. We would not want to produce entirely “useless” public goods (e.g. pyramids, bridges to nowhere), although they might provide some stimulus in a sufficiently high unemployment economy. Additionally, we would not want to provide very much in the way of public goods that have powerful existing special interest groups (e.g. national defense, with Eisenhower first warning of the dangers of the military-industrial complex), because such goods are likely to already be well provided, with marginal benefits below marginal costs.

There are, however, situations in which one would expect to observe peacetime fiscal multipliers substantially greater than zero, and potentially well in excess of 1.0. In a recent article, I show that goods that cannot be individually increased, such as—but not limited to—certain “pure” public goods, are generally undervalued by conventional cost-benefit methods.
The reasoning is straight-forward, though need for brevity will limit the range of examples provided. We work to obtain the goods we want to consume. If we are unable to acquire additional amounts of some class of goods by work effort, one of two things will happen. If there are no good private good substitutes for the public good, work effort will not be undertaken because leisure is valuable to everyone. If there are private good substitutes for the public good, a rational household will purchase them until their marginal values are the same as for other private goods and leisure.

Consider, for purposes of illustration, two types of people. The first, Sten (for “strong environmentalist”) really cares about saving species, increasing wilderness areas, lowering CO\textsubscript{2} emissions, and the like but has limited desires for ordinary goods. If rational, Sten will realize that he is too small to make a difference in the collective provision decision; moreover the price he would have to pay to provide those types of goods himself is effectively infinite. Sten will rationally choose to only generate the income necessary to pay for his limited desires for private goods and for whatever amounts of the public good that happen to be provided. To the economist, Sten is indistinguishable from a “lazy person” who has no strong desires for either private or public goods—and the more that Sten cares for public goods the less income he generates, in extreme cases “dropping out” like a sixties hippie. Cost-benefit analyses of the public goods that Sten cares about will be conducted at the wrong income level and all of Sten’s ungenerated income would have been spent on the public good.

Our second type of person, Ben Shoppen, is more typical, generating substantial amounts of income to provide the wide array of goods his household desires. But, he hates the crowded morning commute on roads so poorly maintained that he worries about putting his Cadillac out of alignment in a pothole. Ben commutes because he felt it necessary to move to a distant suburb because crime rates in his central city were high relative to the suburbs and he wanted his children to get a better education than they could possibly get in the public schools of the central city. Ben has suburbanized, not exclusively because of the trade-offs between lotsize demand and the time and other costs of commuting, but rather because of the poor levels of location-specific public goods supplied in his central city. He is buying an expensive substitute for the public goods bundle he really wants, while missing the restaurant and cultural diversity of the city.

Both Sten and Ben are frustrated at their inability to buy what they want, with Sten generating less income because he cannot buy what he really wants and with Ben spending his generated income on poor private good substitutes for what he really wants.

Is there any evidence to suggest that there is much real-world importance for the argument that certain public goods are under-provided? Yes, as I
emphasize in a recent paper, a robust finding in economics is that something that economists call “willingness-to-pay” is very small relative to something that economists call “willingness-to-accept” for public goods. The very large gap between these measures suggests that the arguments made here could well be important.

To clarify, “willingness-to-pay” is the amount that an individual would offer for an increase in some good (e.g. what they would pay for an extra pound of broccoli per month), while “willingness-to-accept” is the amount that an individual would have to be paid to be willing to part with some good (e.g. what they would need to be paid to give up a pound of broccoli per month). The downward-sloping demand curves of economics imply that willingness-to-accept should be a little bit larger than willingness-to-pay for ordinary goods.

The intuition is simple, namely that we bought our last pound in any time period because it was worth what we paid while the pound before would have been worth more and the next pound would have to be worth less (or we would have bought it). In experimental work of a wide variety, for ordinary private goods the two concepts take on values that are fairly close in magnitude. For public goods, Horowitz and McConnell find that the difference between willingness-to-pay and willingness-to-accept is extremely large. If people are asked what a one percent improvement in air quality is worth to them, they will respond with very small values. But when asked how much they would have to be compensated to have air quality become worse by one percent, the numbers are huge, ten or twenty times larger.

Many explanations for this phenomenon have been advanced. The arguments here are, however, based on traditional utility theory with “free riding” and goods substitution of a standard sort. They should appeal to those who want to know “why” the willingness-to-pay is so low relative to the willingness-to-accept. Willingness-to-pay is so low because it is mis-measured, with the ungenerated income and the income spent on undesired private market substitutes not being seen as benefits of public goods provision by economists conducting cost-benefit analyses.

What are the implications of the arguments here for the multipliers associated with public policy in a world of business cycles? During times of recession, the government (at all levels) should be producing public goods that are complementary with private goods. The increment in these public goods will result, in Sten’s case, in more income being generated, in part because he must pay for what he was wanting all along, but in part because he will want more hiking boots for the new wilderness areas that he could not buy before. In the case of Ben, perhaps cleaning up the river will result in purchase of a boat or improved roads will encourage him to upgrade to a Mercedes. Cleaning up a park might result in greater sales of picnic baskets and associated goods. For public
goods that are complementary with private goods, multipliers would be expected to exceed 1.0 (the case that Barro asserts “would make Charles Ponzi proud”), and this expectation has nothing to do with traditional Keynesian re-spending arguments. If there are more traditional reasons to suspect multipliers to be greater than zero, this would work to reinforce the rationale for the multipliers discussed here.

In boomtimes, the government, again at all levels, should attempt to focus more on the production of public goods that are substitutes for private goods, for example improving safety so that expenditures on door locks, window bars, and Smith and Wessons can be reduced or eliminated. Producing mass transit options at this time would result in lower demand for automobiles. These sorts of expenditures will be less likely to fuel inflation when unemployment levels approach the full employment natural rate. In the (extremely) unlikely case that the public good under consideration has perfect private good substitutes, the multiplier would be zero or close to that. Households would generate the same income level and merely switch from buying private goods to paying their share of the public good.

Summarizing, to the extent that government spending is devoted to public goods that do not have powerful special interest support, particularly public goods that appear to have high disparities between willingness-to-pay and willingness-to-accept, American households will experience a welfare gain due to that spending. Multipliers will be larger if public goods are produced that are complementary with private goods and smaller if public goods are produced that are substitutes with private goods. But in all cases, households will be better off, because cost-benefit analyses (and the welfare measure that underlie them) are not, in fact, being conducted properly for such goods at this time.

REFERENCES AND FURTHER READING


Graves, Philip E. (2009c). "If the Large WTA-WTP Gap for Public Goods Is Real (and There Are Good Reasons To Think So) Conventional Welfare Measures Are
Generally Incorrect" (under review at *The B.E. Press Journal of Economic Analysis & Policy*).
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