

# Jalopy Economics

## How to judge the success of “Cash for Clunkers”

BY RENEE COURTOIS

In the late summer months of 2009, a government program helped nearly 700,000 owners of old cars replace them with new vehicles. The Car Allowance Rebate System (CARS), better known as “Cash for Clunkers,” is credited with stimulating auto sales and gross domestic product (GDP) in the third quarter of 2009. It’s an example of an economic stimulus program that attempts to accelerate consumption — or, better yet, spur entirely new consumption — to provide an immediate boost to economic activity.

The program, in effect primarily in July and August of 2009, granted rebates between \$3,500 and \$4,500 for car buyers who traded in older vehicles with low fuel efficiency to purchase new vehicles with better gas mileage (plus a few other criteria). Generally, the greater the improvement in fuel efficiency from the swap, the higher the rebate granted. The program required the clunkers to be destroyed, getting relatively fuel inefficient cars off the road. Strong demand quickly consumed the program’s \$3 billion budget, which ended the program on August 24, earlier than anticipated.

The program was popular, and without a doubt provided a short-term boost to the economy. But that’s not enough to know whether its benefits outweighed its costs. Economists say its immediate stimulus should be weighed with its medium- and long-term effects.

With a program like Cash for Clunkers, many economists worry first about efficiency. By making cars artificially cheaper to consumers, the program distorts the allocation of resources. Economic theory suggests that prices derived from freely functioning markets will coordinate buyers

and sellers until all mutually beneficial transactions are exhausted. This outcome will be “efficient,” meaning no one can be made better off unless you take from someone else to do it. The catch is, to produce this powerful result, prices must be allowed to reflect how goods and services are truly valued.

This basic idea can easily be applied to the Cash for Clunkers program. The program’s rebates distorted that powerful price mechanism. When that happens, resources are less likely to be allocated to where society values them most. Those resources include everything from car supplies and labor to the energy it takes to produce a new car, all of which arguably could have been used to produce something that provided greater societal benefits.

### CARS Costs and Benefits

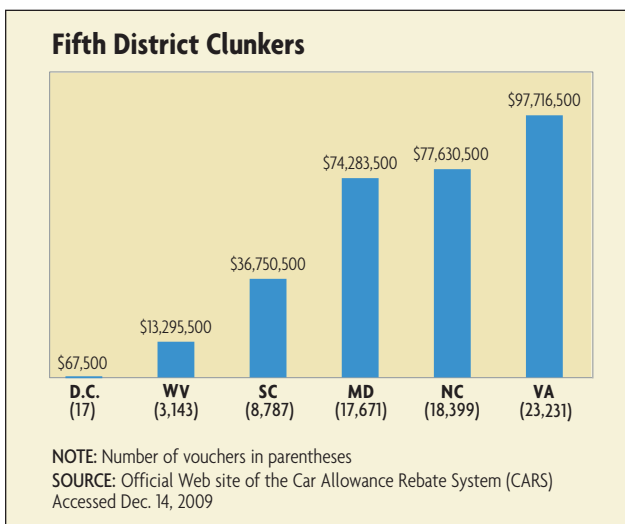
In addition to economic stimulus, program onlookers anticipated a host of desirable side effects, ranging from environmental benefits to assistance to low-income groups. Others noted distortions to secondary markets affected by auto sales and what economists call an economic “payback” effect later.

The array of possible short- and long-term effects makes it hard to gauge the program’s success, but analyzing its initial costs and benefits is one way to start. CARS had a temporary stimulative effect on auto sales and economic growth. Monthly auto sales jumped from a 9.5 million annual rate in the first half of 2009 to 11.2 million in July and 14 million in August while the program was in effect.

Automakers ramped up production to make up for the inventory depleted under the program, which provided a boost to GDP. A report by the White House’s Council of Economic Advisers (CEA) estimates the boost from Cash for Clunkers to the auto sector directly added \$3.6 billion to GDP in 2009, and about 35,000 “job-years” (one job held for one year) in the second half of 2009.

But this effect is temporary. Once the short-term production is exhausted, the demand for those jobs will likely be too. Furthermore, cars purchased during the program were cars that would have been bought at some point in the future, whether months or years later. Automakers will sorely miss that demand later when those purchases would have taken place. Because CARS borrowed demand from the future, auto sales and GDP will face a dip in those future months that will tend to offset the boost in the third quarter of 2009.

To be sure, the CARS program likely brought some clunker owners into the market who otherwise would have



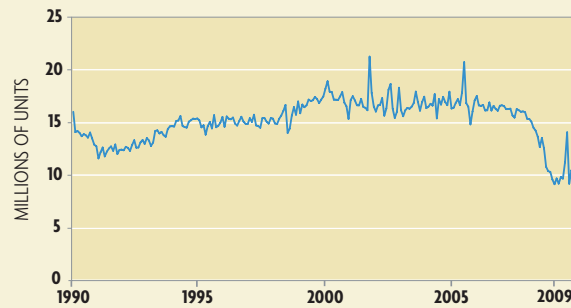
held on to their cars for years to come. Estimates of this number range widely, with many hovering around one-third of all CARS purchases. Nonetheless, to the extent that demand came from the near future, there will be what is called a “payback” effect on economic trends. The payback is the amount of consumption that was borrowed from the future, and therefore will be absent from sales in those future months. The trouble is, we can’t know for sure from what future date demand was borrowed, so the impact of the payback will be hard to measure. Even if auto sales dip after the program’s end, this will not necessarily be due to the payback effect because auto sales are notoriously volatile from month to month. And since CARS borrowed consumption from an unknown future date, it follows that any payback should be spread more benignly over many months or even years.

Yet if auto sales don’t dip, it could indicate a strengthening economy rather than proof that the payback is small. Vehicle sales for September, after the program’s close, dipped back to below-trend levels seen earlier in 2009, with initial signs of recovery in October and November. On the flip side, a Cars.com survey reports that consumers who participated in CARS planned to scale back holiday season shopping as a result, potentially revealing an unintended effect that will eat into the program’s boost to the overall economy. The CEA’s best estimate of the payback is a drop in GDP in the first half of 2010 that will more than reverse the boost provided by CARS in 2009.

### Secondary Effects

CARS also may have borrowed demand from the used car market since some car purchasers would have been in the market for a used car instead. That implies less of a payback

### Cash for Clunkers Boost to Auto Sales



NOTE: Total light weight vehicle sales (import and domestic), seasonally adjusted at an annual rate

SOURCE: Bureau of Economic Analysis/Haver Analytics

for the new car market, but pain for used car sales (as well as used car supply, since many clunkers would have gone into the used car market). This could have significant distributional effects. It was suggested by some commentators that the program would benefit primarily lower-income people, who would seemingly be the predominant owners of clunkers. But this may not have been borne out.

“I think for the most part the people who partook of this largesse by the government were people who drove clunkers by choice, not economic necessity, because if you were driving a clunker by economic necessity, you did not have the money to go into the market,” says economist George Hoffer of Virginia Commonwealth University.

In the months leading up to the program, reports of credit difficulties pervaded the auto industry. Sales reportedly fell through because financing was scarce. Before Cash for Clunkers, the No. 1 problem for new car sales was credit,

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## The Auto Industry in the Fifth District

The transportation industry in the Fifth District includes manufacturers, automotive parts suppliers, and the biggest used-car retailer in the nation, CarMax, headquartered in Richmond, Va. Manufacturers include the BMW plant in Spartanburg, S.C., and Toyota Motor Manufacturing in Buffalo, W.Va., which produces engines, automatic transmissions, and gears. However, the moribund vehicle market has affected profits and, in some cases, the very existence of several suppliers.

In Virginia, Alcoa Wheel Products in Lebanon and steering-parts maker JTEKT in Daleville have announced closings. Nevertheless, the firms are continuing to produce in the short-term because the federal Cash for Clunkers program generated a short burst of demand, according to Mike Lehmkuhler of the Virginia Economic Development Partnership. Others haven’t been so lucky. GM plans to close its Fredericksburg powertrain plant by year’s end in 2010. But some suppliers in the state are weathering the downturn. For instance, Dynax in Botetourt County

remains in the business of producing clutch/friction plates for automatic transmissions.

Transportation-related manufacturing employment has dropped dramatically in South Carolina. At the end of first quarter 2009, the sector employed about 27,000, down from 32,537, the annual average for 2007, according to Steve McLaughlin, a labor analyst at the S.C. Employment Security Commission. North Carolina has seen layoffs in the transportation sector too. Annual average transportation-related employment was 34,773 in 2007. First quarter 2009 employment in the sector, however, fell to 26,095, according to the N.C. Employment Security Commission.

In West Virginia, however, transportation sector employment is stable, according to Joe Doran of Workforce West Virginia. Most of the firms are small, with the exception of the Toyota plant in Buffalo. Employment in the first quarter of 2009, when compared to the same period in 2008, declined 3.4 percent, from 2,059 workers to 1,989.

— BETTY JOYCE NASH

markets and the forming of investor expectations in both positive and negative ways. Regulations like disclosure laws can help markets become more efficient by making information widely available. But a too-large public safety net that convinces market participants they will not have to bear all or most investment losses can induce investors to rationally take risks they otherwise would not have.

Financial market participants may have taken market efficiency for granted, as Fox believes. The only scenario that would be at odds with what the EMH really says would be one in which information had been accessible and market participants just didn't use it. Yet the vast majority of economists, policymakers, and financial market participants did not see the financial crisis coming, perhaps indicating that such infor-

mation about the true risk was not there for the taking. Or perhaps parties who ignored information about the risks were rationally responding to perverse incentives to do so.

Economists don't yet fully understand all the factors that might cause markets to occasionally get prices wrong. To explain this, you can favor behavioral theories on psychology and investor biases, errors of regulation, or perhaps just a pervasive difficulty of accessing information due to characteristics of the market in question. But none of these explanations are inherently at odds with the EMH. Studying the financial crisis with the benefit of hindsight will help economists, investors, and policymakers better understand the causes behind fluctuations in asset prices for which there is no easy explanation. **RF**

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Hoffer says, yet "there was not one word about credit problems during Cash for Clunkers." This may imply CARS participants had good credit, large down payments, or both. All are consistent with a higher income population.

Richmond, Va.-based CarMax lobbied Congress unsuccessfully to include used cars in the program. Had the program included used cars, it might have benefited the less-wealthy, who tend to be more active in the used-car market, Hoffer says. "It would have been more income-neutral."

Environmental benefits were a selling point for the program too. But they're not as straightforward as they appear. Many vehicles scrapped under the clunkers plan would have gone into the used-car market, so CARS removed older polluting cars from the road. All else equal, this should have reduced emissions. CARS participants enjoyed a 9.2 MPG increase in fuel efficiency, on average. This will certainly be a direct benefit to drivers of those cars: *Consumer Reports* estimates that will save owners \$720 apiece in annual fuel costs.

But scrapping the clunkers produces carbon, as do new car production processes. Perhaps more important, many of the clunkers likely were driven less than the new replacements will be. These owners now have more comfortable fuel-efficient cars that are cheaper to drive and thus likely to be driven more. This will eat into emission savings. Hoffer believes it could even produce more emissions for a number of cars, not less. The bottom line is that assessing the environmental benefits of CARS requires looking deeper

than just the car-for-car improvement in fuel efficiency.

### Jaws of Life for the Auto Industry

Like any economic stimulus, CARS is likely to be more effective when there are idle economic resources, a description that certainly matched the economy in 2009. But it matters why resources are idle. By most accounts, the auto industry has faltered because its products are not highly valued relative to competitors. The program may have provided only a temporary reprieve to an industry facing a long-term structural decline. And since two of the Detroit Three were effectively closed for the summer, when the vehicles started selling, they couldn't take advantage of the sales momentum, Hoffer notes.

Moreover, the program used valuable economic resources to replace still-functioning cars. Destroying those productive assets represents a loss of welfare to society. That's why a true estimate of the program's net benefits must also subtract the value of the destroyed assets.

It is not easy to quantify this welfare loss. One could even argue that the cost is small, since the program affects a small number of cars relative to the total number on the road. But more important, if policy broadly used artificially low prices to affect individual decisionmaking in an attempt to subsidize industries precisely because they are not highly valued, then the distortions and unintended consequences could produce losses that may overwhelm the gains. **RF**