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In Defense of GM

No one is asking the right question: Was the company's risk assessment about the faulty ignition switch reasonable?

By Eric Posner



GM CEO Mary Barra testifies during a House Energy and Commerce Committee hearing on April 1, 2014. Barra, and the company she heads, might not deserve the criticism they're getting.

Photo by Kevin Lamarque/Reuters

In the brouhaha over the defective ignition switch that prompted GM to recall 2.6 million cars over the last two months, members of Congress and pundits have judged, tried, and condemned the company's engineers and executives. Michael Moore wants them to be **executed**. With the defect linked to several accidents, which caused 13 deaths, everyone thinks that GM has put profits over human lives. But this is a phony scandal.

Though it's too early to tell for sure, because key information has yet to come to light, GM might have acted reasonably under the circumstances. The premature denunciations are mere grandstanding.

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As I said, some of the facts are still murky, but the story appears to go like **this**. About a decade ago, GM installed into several car models an ignition switch that turned out to be faulty. Heavy keys dangling on the keychain, or a knock from a knee, could turn the ignition key and shut down power while the car was in use. According to a **document** issued by the House Energy and Commerce Committee, which held hearings on the GM recall, GM may have known of the problem as early as 2001 but believed that a design change fixed the problem. It revisited the issue in 2004 after receiving a complaint from a customer that the vehicle “can be keyed off with knee while driving.” In 2005 engineers concluded that possible fixes were too costly or inadequate, and later GM told dealers to tell customers to remove heavy items from key rings. Also in 2005, a fatal accident occurred that may have been caused by the ignition switch problem. In 2006 GM began installing modified ignition switches in 2007 models. Over the ensuing years, more fatal accidents occurred and GM conducted additional investigations. When exactly GM understood the magnitude of the danger posed by the faulty ignition switch is not yet clear.

Much has been made of the 57-cent price tag for the replacement part that would have solved the problem. Commentators claim that GM cared more about saving 57 cents per car on cars that cost thousands of dollars than saving 13 lives. But this accusation is not

credible. Either the GM engineers thought that the original part was adequate or there was some kind of communication failure.

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Still, once the ignition switch was linked to fatal accidents, didn't GM have a duty to recall the cars? The answer is not as clear as it might seem. What has been lost in the public debate is just how rare the fatal accidents were. Thirteen deaths might sound like a large number, but that is the total over almost a decade. Of the **40,000** Americans who died in car accidents every year during the mid-2000s, one or two could be attributed to the ignition switch. It appears that the 2.6 million recalled cars were mostly manufactured over about five years, from 2003 to 2007. That would put the average age of the recalled cars today at eight years, which means that the cars in aggregate have been driven for more than 20 million years. If these assumptions are correct, for every year one of these cars was driven, its driver faced a risk of death of about 0.0000007 as a result of the ignition switch. That's less than one in a million.

For comparison's sake, as of 2002, the probability of **dying in a car accident** in a year was 0.0000567. So if you drove one of GM's cars, the probability of death increased (by 0.0000007) from 0.0000567 to 0.0000574.

The question that faced GM was whether to issue a mass recall to reduce that fractional increase in the risk of death. How does one answer this question? When the **government** evaluates safety regulations, it uses a concept known as the "**value of a statistical life**," which is derived from studies of how much people need to be paid in order to accept a slightly greater risk of death—for example, the difference in wages for a safe versus dangerous job. The current standard is roughly **\$7 million**. The \$7 million figure implies that an ordinary person would be willing to pay about \$5 to avoid a 0.0000007 risk of death in a given year. If we required GM to do a cost-benefit analysis, just like a government agency, the company should have fixed the ignition switch if the cost was less than \$5 per car, multiplied by the number of years left in the car's useful life.

Mary Barra, the CEO of GM, **said it would have cost \$100 million to recall the cars in 2007**. She didn't say why she picked that year, but if that's the year that GM had the information to fully appreciate the magnitude of the problem, it's the right year to use for evaluating GM's behavior. At that point, the affected cars averaged about eight years left on the road. If it takes half an hour to change the switch and it costs \$100 per hour to hire a mechanic, for a total of \$50, then the figure she provided sounds about right.

How much money should GM have spent per car based on the value of a statistical life? About \$40, or \$5 per car multiplied by the average eight years of remaining time on the road. So, it's close, but if it cost \$50 to repair an ignition switch, then GM acted reasonably by saving this money rather than recalling cars for the sake of a benefit of \$40. If GM understood the potential for more fatal accidents earlier, say in 2006, when fewer cars were on the road, then it should probably have acted. This is why it's important to figure out just what GM knew, and when, before condemning it.

There are complicating factors. If it turns out that more deaths can be traced to the ignition switch defect, then GM looks worse. Maybe GM should have done more testing early in the production process; maybe engineers underestimated the risk that the faulty switch posed to drivers. And I have ignored the cost of injuries and damaged property, which would change the cost-benefit analysis. People disagree about what the value of a statistical life is; perhaps it is higher or lower. My goal is not to exonerate GM but to illustrate the type of analysis needed to evaluate its culpability.

Members of Congress, and commentators, are pretending to be horrified that a corporation would attach a price to human life when deciding whether to replace a faulty part. But all corporations that manufacture dangerous goods must do exactly that. If carmakers treated human life as literally priceless, they wouldn't let cars leave the lot. People constantly take small risks to save money; their preferences are embodied in the products they buy.

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Statistic is something people don't think about very well when there's death. My previous company makes medical devices. About 10 years ago, there had been 1 death, of a young man, that our device failed to save. [More...](#)

-JuneBug

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The mantra that corporations put profits over human lives is irresistible but meaningless. The excessive reaction to a routine design-defect episode has all the marks of what Timur Kuran and Cass Sunstein have called “**availability cascades**”—salient events that engage people’s anxieties and are then exaggerated out of all proportion by media hype.

Because legislators feel that they must respond to the public frenzy they have whipped up, availability cascades frequently lead to bad laws and enforcement practices. Indeed, the GM recall is just the latest; there has been a **vast increase** in the number of recalls over last several years, four times as many as in the 1980s even though today cars are much safer. Toyota **just announced five recalls** totaling 6.39 million vehicles on account of defects to which zero crashes have been linked. No one is asking whether this new recall regime is protecting drivers or just jacking up the price of cars.

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