

- THE NUMBERS GUY
- NOVEMBER 6, 2010

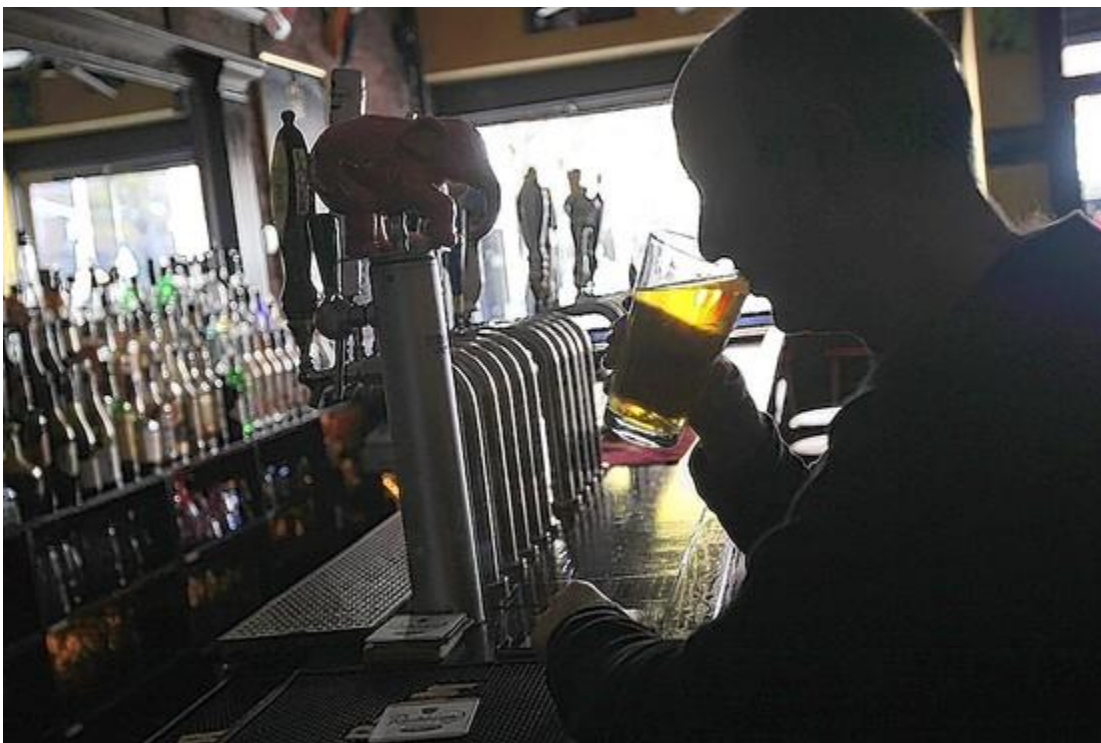
The Pitfalls of Calculating Bad Behavior's True Cost

- By CARL BIALIK



(Photo by Mario Tama/Getty Images)

Researchers disagree over how to calculate the real economic impact of problems such as drug and alcohol abuse.



A murder costs society \$17.25 million, or about 50 times an armed robbery, according to a research team from Iowa State University. A paper from Spain put the average "price" of a pack of cigarettes for men at about \$150. And a group of U.K. health experts considered a range of social, economic and health costs when trying to determine which recreational drug was most harmful. Alcohol won.

Sticker shock is the point of these studies, which attempt to classify societal ills in terms anyone can understand. By assigning a price tag that sums up medical, economic and other burdens,

researchers are hoping to influence policy makers who weigh spending on these concerns against other priorities. And if a high dollar figure captures the public's attention, as all the recent studies did, so much the better.

"Sometimes for these studies, their main purpose is shock value," says Kenneth Warner, dean of the University of Michigan's school of public health.

Numbers Guy Blog

- [That \\$150 Pack of Cigarettes](#)

That doesn't mean the studies lack merit. Crime and drugs that shorten lifespans or diminish quality of life impose real costs in productivity and medical spending, say economists. But measuring these costs can be tricky, especially when it comes to assigning value to a year of human life. The recent studies had varying levels of success grappling with these issues.

Looking at five major crimes—murder; rape; armed robbery; aggravated assault; burglary—Iowa State researchers estimated the costs to victims, to the judicial system, and to the economy from loss of productivity from the perpetrator. Then they tacked on a more-subjective measure, willingness to pay, which attempts to quantify how much an average American would spend to avoid experiencing these crimes. Derived from surveys on spending on personal security, the measure was meant to capture the negative experience of the crime itself. For all five crimes, it represented the bulk of the cost.

Willingness-to-pay estimates trouble some researchers because people might overestimate how much they would actually spend.

Mark A. Cohen, vice president for research at Washington, D.C., research organization Resources for the Future, whose willingness-to-pay estimates were used to come up with the \$17.25 million figure for murder, says he tried to avoid survey bias, capping the amount people could say they would pay for personal security. But he says the way his estimates were used in the Iowa State study risk double-counting some costs, because individuals might subconsciously include things like lost income when they put a price on avoiding crime.

"The way I did it could inflate" total costs, says lead study author Matt DeLisi, coordinator of criminal justice studies at Iowa State. But without those other factors, he says, the impact of crime might be undervalued.

Ángel López Nicolás, the economist at the Technical University of Cartagena in Spain who put the mammoth \$150 price tag on a pack of cigarettes, used a different strategy to assess the loss of human life. Rather than base it on what people say they would pay, Prof. López Nicolás looked at what people are paid for increased risk on the job, and used that to determine that smokers value their lives at 269 times their annual salary. Based on that figure, as well as the shorter life expectancy of the average smoker and the amount smoked, Prof. López Nicolás derived an average value per pack.

There are potential problems with Prof. López Nicolás's approach. For one, smoking's toll on lifespan isn't necessarily proportional to the number of packs smoked. Prof. Warner notes that smokers who buy fewer cigarettes when prices rise tend to smoke their remaining cigarettes more intensely, reducing the health benefit.

Also, individuals don't value an additional year of life equally. The aversion to death might be smaller later in life, when many smokers die from their habit, which Prof. López Nicolás concedes is a potential drawback to his approach.

These assessments are the inevitable result of putting a price tag on human life, as courts, insurers and government agencies often do. Another consequence: Life will appear more valuable in wealthier countries, where wages and medical spending are greater.

The study that suggested alcohol is society's most harmful drug, at least in the U.K., wasn't based strictly on economic costs. Alcohol, tobacco and more than a dozen illegal drugs were assessed on a wide range of factors by a panel of experts convened by David Nutt, a professor of neuropsychopharmacology at Imperial College in London and a critic of the government's vilification of certain illegal drugs while permitting alcohol. His views led the U.K. government to ask him to resign from a panel on drug abuse.

In the study, experts assessed the drugs on 16 criteria, including harmful effects on users and on others. Each drug got a score for each criterion, and the scores were weighted and added together to produce an overall harm rating. The method accentuated alcohol's impact, because it is widely used and endangers others, notably through drunken driving and crime. Tobacco, though, kills more of its users than other drugs do.

The result, says John Britton, director of the U.K. Centre for Tobacco Control Studies at the University of Nottingham, "is screwy. A major component has to be how many bodies it produces."

Dr. Nutt responds that the rankings can shift slightly depending on the weightings, but by just about any weighting, alcohol remains the most harmful. He says his results offer useful rankings, because rigorous studies haven't been done into the full extent of every illegal drug's harmful impact. "When there isn't much knowledge, expert opinion is the best you can get," he says.

Write to Carl Bialik at numbersguy@wsj.com

Printed in The Wall Street Journal, page A5

Copyright 2010 Dow Jones & Company, Inc. All Rights Reserved

This copy is for your personal, non-commercial use only. Distribution and