

Commentary

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Limits of Cost-Benefit Calculation

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The Limits of Cost-Benefit Calculation

Commentary on Bennis, Medin, & Bartels (2010)

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Abstract

Bennis, Medin, and Bartels (2010, this issue) correctly identify real limits to the efficacy of cost-benefit analysis in comparison to moral rules. In this commentary, I suggest that those very same limits apply to decision making in general. Cost-benefit analysis may be the best way to arrive at decisions under a set of “closed-world assumptions” like those described by Bennis et al. But those assumptions virtually never hold, and in the absence of those assumptions, cost-benefit analysis often substitutes counting for thinking.

Keywords

If a man does away with his traditional way of living and throws away his good customs, he had better first make certain that he has something of value to replace them.

—Basuto proverb (cited by Ruark, 1953)

Several years ago, the journalist and food writer Michael Pollan (2002) tried to make a point about the true costs of factory-farmed beef by buying a young steer and seeing it through its journey to being fattened up and sold for slaughter. The cow ate corn that had been fertilized with petroleum products and was fed antibiotics prophylactically to speed its growth and keep it healthy. This mass-production substitute for grazing on grass pasture land was driven by the desire to fatten up the cow as quickly and cheaply as possible, so that beef could be provided to consumers inexpensively while everyone involved in its production (including Pollan) made money. Having watched his steer go from heifer to \$3/pound dinner, Pollan then asked what the “true” cost of a pound of this beef was. Should we count the days of lost income (and quality of life) to people who came down with bacterial infections that were resistant to antibiotics in part because of all the prophylactic antibiotics being fed to steers? Should we count the increase in cardiovascular disease that resulted from the fact that corn-raised beef is fattier and thus less healthy for human consumption than is grass-raised beef? Should we count the people who became ill because eating corn rather than grass changed the acidity of the steer’s digestive system, so that life for bacteria in the steer’s stomach was compatible with life in the human stomach, enabling cross-species transfer of disease? Should we count the lost revenue that subsidies to corn producers (most corn grown in the U.S. is used to feed livestock) costs the U.S.

government—revenue that might be used to improve healthcare for children, to reduce class size in elementary schools, or to build low-income housing? Finally, should we count the nudge that corn-fed beef exerts on U.S. foreign policy as a result of the demand for petroleum that will be turned into fertilizer? These are all “real costs” of a pound of beef, though they are not reflected in its supermarket price. And then there are the opportunity costs. What else might be grown on those corn fields? And what might be done with the massive amount of water (our next great scarcity) that it takes to irrigate corn fields? And what about all that cheap corn syrup fattening up America’s kids—syrup that would certainly not be cheap and might not be available at all if we weren’t feeding corn to our future hamburgers?

Pollan’s point was simple, but profound. Framed narrowly, factory-farmed beef is a miracle of technical, entrepreneurial innovation, bringing cheap beef to the masses. But framed very broadly, the price of pound of corn-fed beef may be more than anyone can afford. What’s the right way to frame the cost-benefit analysis of corn-fed, factory-farmed beef?

There is nothing distinctly moral about this example, though as a policy matter, the practice of factory-farming beef has real moral implications. Yet all the problems associated with cost-benefit analysis applied to the moral domain, as articulated by Bennis, Medin, and Bartels (2010, this issue), are present in this example. What is the range of outcomes relevant to the cost-benefit analysis? What should count as a cost and what should count as a benefit? And how do we attach probabilities to each of the costs and benefits? We can make closed-world assumptions that are false and kid ourselves into believing that cost-benefit analysis tells us something important. Or we can acknowledge that Pollan’s growing steer touches most aspects of our lives and look for another way to judge what to do about raising beef. The point is that before we do a cost-benefit analysis, we have to frame the situation and “close” the world. And as far as I am

aware, we can't use cost-benefit analysis to tell us how to frame a way to do cost-benefit analysis.

Economist Richard Thaler (e.g., 1980, 1999) has done important work to call our attention to various quirks of framing, or “mental accounting,” that together with prospect theory (e.g., Tversky & Kahneman, 1981) does a lot to explain many apparent irrationalities of human decision making. About 90 % of people who discover that they lost a \$10 bill on the way to the movies will still buy a ticket, whereas only about 60 % of people who discover they lost a \$10 ticket will still buy a ticket. Why? Because the lost ticket goes in the “cost of a movie” account, whereas the lost \$10 does not. And for some, \$20 is too much to pay for a movie. And people will simultaneously put money into savings accounts that earn 3% while making minimum payments on their credit card debt on which they pay 18%. Economists “know” that money is fungible, but people often behave as if it's not. The presumptions that underlie demonstrations of mental accounting like these is that they are instances of “stupid human tricks” that can be spun to entertain people at cocktail parties. A dollar is a dollar. There is only one “account.” And rational people know this.

Though in some sense, a dollar is a dollar, as I have pointed out elsewhere (Schwartz, 1986, 1994, 2004), it is hard to see how anyone could get through life acting as if there's just a single big account. Imagine the college graduate who gets a \$1,000 graduation gift from her grandparents and then sits down to decide whether to spend it or invest it and on what things they should invest in or spend on. The set of things you could do with \$1,000 is infinitely large. By the time you made the “rational” choice, inflation would have ground the \$1,000 into dust. What undoubtedly saves people from this paralyzing set of possibilities is that they divide the world into categories, or mental accounts, within which the number of possibilities, though large, is

manageable. I have argued previously that we can't judge decisions that are affected by mental accounting as irrational unless we have a theory of a "rational" way to keep accounts. And we can't come up with a theory of rational mental accounting without a theory of a rational way to live one's life (Keys & Schwartz, 2007). We make decisions—of all kinds—in an open world, not a closed one. The only thing unique about moral decisions is that they are moral, not that they involve an open world.

But the fact of moral decisions gives us insight, I think, into how we do make our decisions makeable and manageable. In the moral world, the obvious alternative to cost-benefit analysis is rules. An economist or policy maker does cost-benefit analysis. A rigid person just puts blinders on and follows the rules. A less rigid person starts with rules but has his or her eyes open to possible exceptions. And an especially wise person makes exceptions at just the right times, in just the right ways, for just the right reasons (Schwartz & Sharpe, 2006). But even among those open to exceptions, moral rules provide the defaults—the anchors. In the nonmoral domain, it is probably habits or social conventions that play the role that rules play in the moral domain, though some people make rules of conduct for themselves even in the nonmoral domain. Convention tells us that gifts for very special occasions like college graduations are to be spent on something very special or saved for something special. They are not to be used for groceries and the electric bill (unless, of course, your lights are about to be turned off and you've been eating ramen noodles for 2 straight weeks; then, perhaps, you make an exception).

Rules don't tell us how to compute the real cost of Pollan's pound of beef. But, then, neither does cost-benefit analysis. What is needed is a conversation about how much the closed world should be opened up. Such conversations may bring clarity, but there is no guarantee that they will bring people to agreement. And that is because to know how much to open up the

world, one needs to know a lot—about the state of the world, the state of the people in it, the goals and purposes of those people, and perhaps what the goals and purposes of those people should be. With issues like these settled, a useful cost-benefit analysis is possible. But not before.

Though Bennis, Medin, and Bartels are explicit that they are not taking on the literature in moral development, it strikes me that the “different voice” that Gilligan (1982) introduced to Kohlberg’s (1969) theory of moral development was the voice of people who see the world as “open”—who look for a way to respect property rights and life in responding to the famous Heinz dilemma, and who wonder whether there isn’t some way to frame the dilemma that is different from the way in which it was presented and perhaps allows for reconciliation of competing views. What Kohlberg regarded as the “highest” form of moral reasoning takes the problem as given and then calculates the “right” answer. One of Gilligan’s young respondents even described these dilemmas as like math problems. Yes, we can make them like math problems, but all the really hard work comes before hand. So cost-benefit analysis has its place, but that place is not every place.

As Bennis, Medin, and Bartels point out, the field of judgment and decision making makes much of the distinction between normative and prescriptive approaches to decision making. In this view, it may seem natural to regard cost-benefit analysis as the normative ideal but then acknowledge that finite creatures with limited time may need to resort to rules (e.g., Simon, 1955, 1956, 1957). Baron (1986) makes this argument by using philosopher R.M. Hare’s (1981) distinction between the “archangel” (an organism of unlimited capacity) and the “prole.” Archangels do cost-benefit analyses case by case and behave as “act utilitarians.” They also use utility calculations to develop rules for the proles to follow, and the proles behave as “rule utilitarians.” Thus, “follow the rules” is prescriptive advice to those who aren’t archangels.

I think this is the wrong view. The problem is not (just) in us, but in the world. Even people of unlimited processing capacity—archangels—will have problems knowing how much to open up the system and in what ways. To do this unerringly is to be able to predict the future unerringly. Moreover, it may be impossible to attach probabilities to many relevant futures, not because we don't know enough, but because there is not enough to be known (see Ben-Haim, 2006; Ben-Haim, Dacso, & Schwartz, 2009). And as one can't do cost-benefit analysis without being able to assign probabilities to possible outcomes, the limit on cost-benefit analysis is a normative one, not a prescriptive one.

And among the futures one can't predict are futures that arise as a result of cost-benefit analyses that treat incommensurables as commensurable, treat sacred or "protected" values as mere preferences (Baron & Spranca, 1997; Ritov & Baron, 1999), and treat "taboo tradeoffs" as permissible (Fiske & Tetlock, 1997). What kind of place does the world become when people are willing to break all the rules and use cost-benefit analysis in their place (Schwartz, 1988)? As Bennis et al. point out by citing Tetlock, Kristel, Elson, Green, and Lerner (2000), sometimes even "to compare is to destroy" (p. 854). Cost-benefit analyses, if they become routine because everyone learns that they are the normatively correct way to make decisions, may cast a long and destructive shadow. If each citizen takes it upon him or herself to do cost-benefit analyses to determine whether or not to follow a rule, life will be chaos, and the costs of rule enforcement will explode. The proverb with which this commentary began cautioned that "if a man does away with his traditional way of living and throws away his good customs, he had better first make certain that he has something of value to replace them." Cost-benefit has real value, but not nearly enough.

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