

**BRIEF ANALYSIS**

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## Guide to Regulatory Reform: The Cost-Benefit Rule

Cost-benefit analysis is a comparison of the estimated costs of an action with the estimated benefits it is likely or intended to produce. Almost all business decisions involve some measures of costs versus benefits. Yet many governmental decisions are taken without adequate consideration of either. That is one reason the private sector is more efficient and productive than government.

The Contract with America calls for cost-benefit analysis to be applied to new rules and regulations. The idea is to force Congress and regulatory agencies to assess the costs and benefits of regulations before they are enacted — similar to the requirement that the impact of new legislation on the budget deficit be assessed before new laws are passed.

A weak cost-benefit rule would simply require costs and benefits to be assessed. A strong cost-benefit rule would require the benefits to exceed the costs.

**What Is Cost-Benefit Analysis?** Cost-benefit analysis is controversial when it is applied to policies intended to address potentially harmful or fatal risks, particularly environmental risks. Many critics argue that one cannot place a dollar value on a human life. But that is not the intent of cost-benefit analysis. Rather, such analysis permits comparison of various options, all of which may be beneficial in some way but not all of which can be simultaneously undertaken.

**Measuring Benefits in Terms of Years of Life Saved.** Eventually we all will die. Thus, researchers who study risks refer to “life-years saved” rather than

“deaths prevented.” Avoiding a particular risk of death today means that you are more likely to live the statistically average life span in America. The difference between this average life span and a premature death is the number of “life-years” saved.

The standard practice these days is for scholars to discount future years of life saved at a 5 percent rate of interest. Thus, if a regulation allowed a person to live 10 more years rather than die today, the “present value” of the number of life-years saved is 7.7 years, rather than 10 years.

Future costs are also discounted at a 5 percent rate of interest.

Of course, in most cases we don’t know for sure

whether a particular regulation has saved any particular person’s life. That’s why calculations of life-years saved almost always are based on statistical probabilities.

### Five High-Cost, Low-Benefit Regulations

<u>Regulation</u>	<u>Cost/Life-Year</u>
Radionuclide emission control at coal-fired utility boilers	\$ 2,395,161,000
Benzene emission control at rubber tire manufacturing plants	\$19,865,323,000
Radionuclide emission control at uranium fuel cycle facilities	\$33,750,000,000
Sickle cell screening for non-black low-risk newborns	\$34,239,773,000
Chloroform private well emission standard at 48 pulp mills	\$99,351,684,000

Source: “Five-Hundred Life-Saving Interventions and Their Cost-Effectiveness,” Tammy O. Tengs, Sc.D., et al., 1994.

**Measuring the Costs Per Year of Life Saved.** Consider the case of mammograms. If we gave every woman in America an annual mammogram, we would detect some breast cancers in their early stages and prevent some women from dying prematurely. However, since the number of women whose lives would be saved would be relatively small, the cost per life saved would be high.

In making the calculations for the figure on the reverse side, researchers assumed that in the absence of a mammogram women would get an annual physical breast exam. So the figure shows the net additional cost and net additional benefit of adding a mammogram to a regular physical exam. As the figure shows, for women in their 40s, the cost per year of life saved would be \$186,635. For women in their 50s, the cost would be \$108,401.

When Hillary Rodham Clinton devised the Clinton health care plan, she and her advisors made a decision not to cover a cost much higher than \$100,000 to save a year of life. That's why the plan provided regular mammograms for women in their 50s, but not for women in their 40s, and why the plan provided for pap smear tests every three years rather than every year.

Is \$100,000 the right standard? There is no right answer to that question. But if we accept that standard and we decide to apply it to the health and safety regulations of major government agencies, then most of what government does in these areas fails the test.

**The Most Expensive Regulations.** Some regulations impose astronomical costs relative to the benefits they produce. The chart shows five of the worst examples. Bear in mind that the dollar figures shown are the estimated costs *for each year of life added* to an exposed individual's life span.

- The standard set for chloroform at pulp mills imposes over \$99 billion in costs for each life-year saved.

- If, thanks to the passage of this regulation, one person could be expected to live another 20 years, the implicit "value" of that regulatory intervention would be *almost \$2 trillion per life saved!*

What is really going on in these cases is that these particular regulations are dealing with such tiny risks that there is very little reason to believe that any lives will be saved. That is why the cost estimates appear so outrageous.

**Policies and Subjective Values.** All policies involve costs, while benefits, when they exist, are neither tangible nor economically visible. Thus a major debate centers on the question of quantifying subjective non-economic values. While direct outlays and expenditures

are readily tabulated, converting subjective values into monetary equivalents is fraught with difficulty. Nevertheless, although perfect precision is impossible to attain, the process can generate valuable information.

And for many environmental regulations no benefits have ever been proven. They have only been assumed. This has led some to assert that simply taking an opinion poll can tell us how much a particular amenity is truly worth. For example, after the Exxon Valdez oil spill in Alaska, people were asked how much they individually would be "willing to pay" to protect the shoreline from future oil spills. Their individual answers, when extrapolated to the entire U.S. population, were astronomically large, yet they were presented as estimates of the

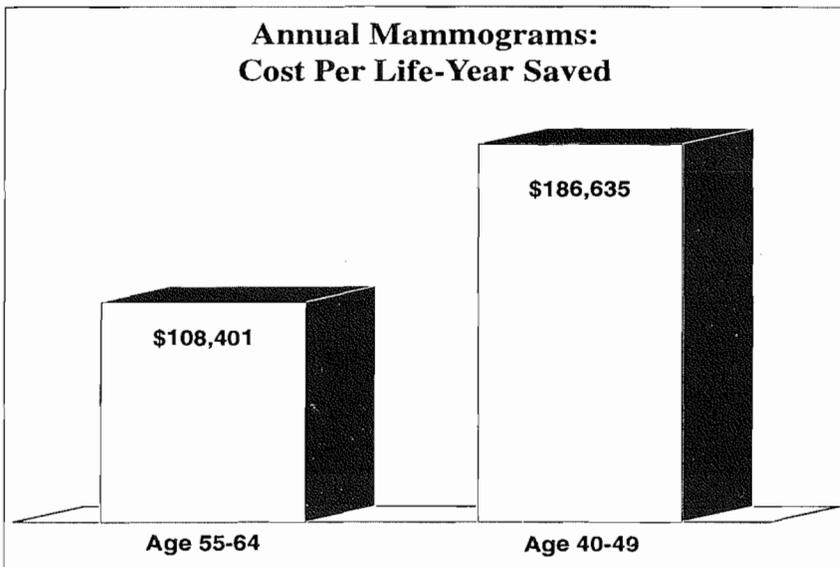
"value" of pristine wilderness — a technique sometimes called "contingent valuation."

However, contingent valuation methodologies often confuse what one is willing to say and what one is willing to pay. Cost-benefit calculations require a firmer footing.

**Policy Implications.**

Proper cost-benefit analysis provides an objective listing of independently estimated costs and benefits of a given regulation, which public officials (or the voting public) may ignore or embrace. Thus cost-benefit analysis is simply a tool for, separating good intentions from good ideas. It does not curtail or eliminate the decision-making authority of elected officials, but it analysis does generate the critical information all public servants require.

*This Brief Analysis was prepared by NCPA Senior Fellow Kent Jeffreys.*



*Note: Nothing written here should be construed as necessarily reflecting the views of the National Center for Policy Analysis or as an attempt to aid or hinder the passage of any legislation.*