

Policymakers shouldn't shy away from risk

Tom Quirk reviews

Risk-Benefit Analysis

By Richard Wilson & Edmund
A.C. Crouch
(Harvard University Press
2001, 361 pages)

Managing risk in modern society has proved to be one of the most vexing issues for policy makers. We are concerned about bird 'flu and climate change. We have had Y2K and worries that an asteroid may collide with us. We have all these catastrophic risks as well as more mundane ones—cancer from power lines or mobile phones, falls from ladders and bicycles, and movements in bank interest and currency exchange rates.

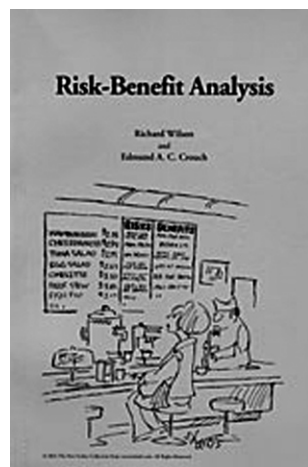
How do or should we assess these risks? *Risk-Benefit Analysis* is a comprehensive and authoritative guide to thinking about risk and how to balance it against benefits for society. The authors, Richard Wilson and Edmund Crouch, have as much wisdom on this subject as a barn full of owls.

It is not an easy read, but it is written for a general readership and has a wonderful selection of data and *New Yorker* cartoons.

The authors proceed from methods of risk estimation, uncertainty, perceptions of risk, risk and benefit, and finally to managing and reducing risks.

Old and new risk estimation covers historical risk and risk arising from new technologies. This allows them to discuss the 'Precautionary Principle' under the delicious heading of 'Risk of the Impossible'. Examples are drawn from nuclear radiation issues

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and epidemiological ambiguity problems. Finally they state that *zero risk is unattainable*. This simple statement should be given the status equivalent to one of the Ten Commandments for policy makers.

There are extraordinary examples of the difference between the lay perception of risk and the expert assessment. These may be value judgements of what to do about a known quantitative risk. Others are public misconceptions about the size of the risk.

One of the most telling examples is the difference of perceived risk from using X-rays and nuclear power. The public sees the use of X-rays as low risk but expert assessment considers them high risk. Nuclear power is perceived in exactly the opposite way. Wilson and Crouch analyse these common misconceptions and try to prescribe some remedies.

There is a sense of frustration here that this sensible and logically derived signal is lost in the noise of NGOs claiming disaster and catastrophe.

The challenge is to compare risk with benefit, and that, inevitably, is discussed in terms of mathematical functions.

But to do that is to risk condemnation. As the Nobel Laureate, Joshua Lederberg put it: 'Anyone who tries to

deal with health in economic terms, which is a necessary part of a system analytic point of view, is exposing himself to the risk of misunderstanding and even bodily harm from outraged citizens'.

A chapter on risk management shows how to think about reducing risk. Criteria are grouped into three classes, *Zero risk*, *As low as reasonably achievable or best available control technology*, and *Cost risk-benefit analysis*.

A ban on an activity is the most primitive risk-reduction action. If uniformly applied, this is zero risk. It is still used in peculiar circumstances, as in banning the use of RU486, an abortion pill. Somewhere in this space the 'Precautionary Principle' makes itself felt. The principle is not well defined—a problem compounded by the fact that its proponents oppose the use of quantitative assessment. But, as Lord Kelvin said, until something has been expressed in numbers, it is not understood.

The last chapter and some one-third of the book is given over to lists of risks. There are examples of risk calculations, all manner of risks from being a president or monarch to working in retail, from mountain climbing in the Himalayas to bear attacks when backpacking. Some risks are discussed in detail, finishing with the accidents at Chernobyl and Bhopal and the oil-well fires in Kuwait. Finally, there is a table of 500 life-saving interventions and their cost-effectiveness.

Wilson and Crouch combine deep understanding of methods with practical experience and entertaining presentation. The lesson is clear: government policy needs to refocus on the central question of risk versus benefits before condemning innovation and progress.

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