Introduction

LAURA JONES

Risks all around us?

Citizens of wealthy countries such as Canada and the United States have become preoccupied with health, safety, and environmental concerns. Even as we go about such ordinary activities as applying deodorant, driving to work, and eating, we worry. "Didn't I read somewhere that deodorants can clog pores and cause cancer?" "Is my car contributing to the global-warming crisis?" "Is there any pesticide residue on these carrots?" "Are they genetically modified?" "Will that second-hand smoke that I was exposed to at lunch make me sick?"

In the first chapter, **Risk Aversion: The Rise of an Ideology**, Mark Neal reminds us that it is a luxury to be concerned about such risks. Until relatively recently people feared death from influenza, tuberculosis, starvation, or, before penicillin, even a simple cut. According to Neal:

> It is ironic that the obsession with health and safety over the last 20 years should come at a time in our history when we are living longer and healthier lives than ever before. If we consider standard indicators of general welfare—maternal death in childbirth, infant mortality, income per capita, death from infectious diseases, average life-span—it is plain that we have never had it so good. (Neal: 16).

But, it is hard to remember that we have never had it so good when it seems that we hear another story about how everything from baby toys to cell phones cause cancer every time we turn on the television. We rely heavily on the media for our information about health, safety, and environmental issues. As Lydia Miljan explains in **Unknown Causes, Unknown Risks**: "About half of the 1500 respondents in a survey by Health Canada said they receive 'a lot' of information on risk from the media and about 35 percent said they receive a 'fair' amount. Physicians, the next most popular source, give only about a quarter of the respondents 'a lot' of information" (Miljan: 32). Dr Miljan goes on to explain how media coverage systematically distorts our perception of risk by focusing on unusual occurrences, alleging consensus among scientists where none exists, and relying heavily on interest groups for information.

Case studies in risk management

As we have become more affluent our demand for safety has increased. We no longer tolerate risks that were accepted as unavoidable as recently as 50 years ago. Of course, this decreased tolerance for risk is not in and of itself undesirable. But, it has made us susceptible to scares based on junk science. These scares can be costly and counterproductive. The next four chapters of the book explore specific examples of how risks associated with transportation, second-hand smoke, toys, and food have been handled. The studies illustrate how the media, interest groups, and government departments can affect our perceptions of risk and influence regulatory decision making.

In **Science and Policy in the Economic Assessment of Transport Regulations**, William G. Waters examines risk regulation in the transportation sector including the American regulations on fuel economy for automobiles, the 55-mph speed limit, and automotive airbags. His conclusion applies broadly to all policy debates:

> Policies, however good their intention, will set changes in motion as people respond to the new environment and its signals. In some cases, the behaviourial response might thwart the policy intention completely. More typically, it will reduce but not eliminate the desired policy outcomes. In almost every case, this means that policies cannot be as effective as we desired, unless the behaviourial responses are anticipated in the design and coordination of policy packages. (Waters: 68)

In some of Waters' examples, policy makers have considered the unintended consequences of their proposals. A proposal requiring infants traveling on airplanes to have their own seat rather than sit on a par-

ent's lap was abandoned after policy makers realized that it would require that parents purchase an additional ticket, which would make them more likely, at least on short routes, to drive. Since driving is not as safe as flying, the regulation would have been counterproductive. Waters shows that in other cases, however, the unintended consequences of regulations affecting the transportation sector were not adequately considered. Following the fuel crises in the 1970s, Americans tried to increase the fuel economy of automobiles through regulations by introducing Corporate Average Fuel Economy (CAFE) standards. What was the consequence of these new rules?

> The goal of increasing fuel economy (whether by regulation or price mechanisms) sets forces into motion that alter the design of vehicles. In this case, increased fuel economy led to smaller and lighter vehicles. But, there is a significant correlation between the size of a vehicle and personal safety in crashes. Crandall and Graham (1989) estimate that the down-sizing of cars to meet fuel-economy standards resulted in a 14 percent to 27 percent reduction in safety. (Waters: 60–61)

By introducing regulations to address one policy concern (using too much gasoline) risks in another area (safety) were excacerbated. While economists are trained to recognize these risk-for-risk trade-offs, decision makers in policy often are not. The unfortunate and unintended result of introducing policies without considering these trade-offs can be an overall increase in risk.

In **Second-hand Smoke and Cancer: The Research Evidence**, John Luik examines on how science and policy can be distorted by the actions of interest groups and a regulatory agency. Despite the lack of scientific evidence linking second-hand smoke with lung cancer in non-smokers, the majority of the public now believe that such a risk exists and many governments are regulating smoking as if it poses such a risk. Dr Luik looks at two cases, the court case against the United States Environmental Protection Agency (EPA), where the EPA's classification of second-hand smoke as a human carcinogen was overturned, and the 1998 study by the International Agency for Research on Cancer (IARC) that did not find a statistically significant link between lung cancer and second-hand smoke. "In the first instance, the public-health community and the anti-smoking movement manufactured a health risk and, in the second instance, they attempted to discredit their own scientific study when it failed to support their manufactured risk" (Luik: 74). Dr Luik shows in detail how these cases "reveal the same key characteristics of junk science—the misrepresentation of scientific findings,

the misrepresentation of scientific procedure, and the desire, at all costs, to suppress dissent in the service of junk policy" (Luik: 74).

The next chapter, **Much Ado about (Almost) Nothing: Greenpeace and the Allegedly Toxic Teethers and Toys**, by William T. Stanbury focuses more specifically on the tactics of interest groups. Stanbury's study of Greenpeace's "Play Safe" campaign, which tried to eliminate polyvinylchloride (PVC) from children's toys, illustrates how sophisticated some anti-risk activists have become. He notes that Greenpeace's tactics to gain media visibility during the campaign, which began in the fall of 1997, included hanging banners at toy stores, removing toys from shelves, confronting store managers, and interrupting the annual meeting of the International Council of Toy Industries in Toronto to demand the withdrawal of PVC toys from shelves. Greenpeace also pressured leading retailers such as Toys 'R' Us, Walmart and Zellers by sending them letters demanding they stop selling all soft PVC infant toys. Professor Stanbury points out that many of these tactics were copied from similar campaigns against PVC toys in Europe and that the Campaign waged in Canada was only part of a well-orchestrated international campaign: "The multinational approach gives the appearance of international or even worldwide concern. It also increases the odds that one government will 'crack' under pressure and take action along the lines proposed by Greenpeace. Greenpeace then treats this as a 'precedent' or example for other countries" (Stanbury: 124).

By attracting media attention through its stunts in Canada, Greenpeace pressured the regulatory agency, in this case Health Canada, into action. Stanbury explains how the dynamic in this and other risk controversies works.

> Greenpeace's skill in initiating and advancing risk controversies is able to create enormous pressures on governments and other established organizations. They must respond in some fashion, no matter how ridiculous the claim by an interest group, particularly if that group can claim some scientific support for its position. (Stanbury: 126)

Stanbury concludes that from Greenpeace's perspective the campaign was successful in terms of attracting sufficient media attention to convince many parents to stop buying PVC toys and convincing many toy sellers worldwide to "voluntarily" stop selling PVC toys. Supporters of rational public policy lost this battle:

> [G]overnments in a number of nations, by banning phthalates in toys and teethers, over-reacted to a minute risk of a modest harm.

> This was another example of weak risk management in the face of a skilled and determined interest group. Fear of harm to children created sufficient fear of political repercussions in a number of countries to result in over-regulation. Thus, rationality in policy-making took another beating. (Stanbury: 129).

Finally in this section, Douglas Powell, in **Genetically Engineered Angst: From Frankenstein to Frankenfoods**, describes how a "combination of scientific *naïveté*, media hyperbole, and allegations of corporate conspiracy" have come to characterize public discussions of genetically engineered foods. Powell explains how the evidence that genetically engineered foods are often better for the environment, contain lower levels of natural toxins, and are rigorously tested has been eclipsed by irrational rhetoric about "frankenfoods." He concludes: "Appropriate levels of risk management coupled with sound science and excellent communication about the nature of risk are required to garner further benefits of any technology, including agricultural biotechnology" (Powell: 149).

Too safe?

The last four chapters in the book look more generally at regulatory decision-making designed to reduce risk. In **Progress at Risk: Using the Precautionary Principle as a Standard for Regulatory Policy**, H. Sterling Burnett takes a critical look at using the precautionary principle as a guide to regulatory decision making. The principle has been interpreted to mean that no new technology or product should be used until it is proven that it poses no threat to human health or the environment. It has the familiar appeal of an adage we all know well: "better safe than sorry." Although it is increasingly being used in legislation and international treaties, Mr Burnett warns:

> While the precautionary principle may sound reasonable in theory, it would be disastrous if practised. One cannot prove a negative. Every food (including organic foods), product, and tool poses some risk of harm. Without the use of fire, automobiles, antibiotics, coffee, water, salt, and chlorine—to name just a few natural and human-created foods, application, and tools—human life, in the words of the philosopher Thomas Hobbes, "would be nasty, poor, brutish, and short." (Burnett: 156)

Our quest for a risk-free society, if carried too far, could lead us back to a miserable existence.

The next two papers look at the use of cost-effectiveness in regulatory decision-making. First, in **Dying Too Soon: How Cost-**

Effectiveness Analysis Can Save Lives, Tammy O. Tengs looks at how making better use of cost-effectiveness information in public-policy decision-making could increase the number of life-years that are saved. Not surprisingly, she finds that currently the cost-effectiveness of regulation varies dramatically among government departments. For example, she shows that the median regulation proposed by the US Environmental Protection Agency costs 100 times more per year of life saved than the median proposed safety standard for highway safety or consumer products. "Because of this haphazard pattern of investment, government regulations save fewer lives than they might, given the resources consumed, and consume more resources than necessary, given the survival benefits offered" (Tengs: 184). Tengs evaluates the cost-effectiveness of 139 government regulations that consumed $4.11 billion annually and saved 94,000 years of life. She shows that the same $4.11 billion invested in the most cost-effective regulations could save more than twice as many years of life—211,000 rather than 94,000 annually. She concludes: "Because we fail to base public health decisions on cost-effectiveness, we sacrifice many lives every year. Allowing cost-effectiveness to inform those decisions will improve the allocation of scarce life-saving resources" (Tengs: 185).

Given the almost incredible increases in the number of years of life that could be saved if resources were allocated according to cost-effectiveness criteria, the obvious question is why it is not used more? In **The Reluctance to Use Cost-Effectiveness Analysis in Regulatory Decision-Making**, Peter J. Neumann addresses this question. He identifies a number of barriers to the explicit use of cost-effectiveness analysis including lack of training for decision-makers on how to use cost-effectiveness analysis and skepticism on the part of decision-makers about the information coming from cost-effectiveness studies sponsored by industry. Decision-makers also identify lack of timely and relevant information as a barrier to using cost-effectiveness information. Neumann reminds us, however, that "[c]onsiderations of cost will always play an important role in health-care decisions, whether they lurk in the shadows or are appraised openly" (Neumann: 192). He suggests that some of the barriers to using cost-effectiveness analysis as a tool in decision-making can be overcome by increasing research activity in the field, ensuring that research adheres to high standards recommended by experts in the field, and establishing mechanisms for independent, third-party review of cost-effectiveness claims.

The book concludes with **Reforming Risk Regulation in Canada: The Next Policy Frontier?** by William T. Stanbury, who outlines an agenda for reforming risk regulation in Canada. Stanbury argues that government management of risk regulation is subject to a number of

"routine pathologies." These pathologies include lack of economic analysis, haphazard selection of risks for government action, lack of collaboration between government departments, one-size-fits-all types of government action to deal with risks, and poor risk communication to the public. His specific recommendations to remedy these problems include establishing a government-wide risk-management policy, applying to risk management the same oversight as the Treasury Board now applies to expenditures, increasing the amount of information routinely disclosed about risk-management activities, mandating better analysis of risk, and making a systematic effort to rank risks in terms of their importance and establish priorities for government action.

How safe is safe enough?

As Professor Stanbury points out in the last chapter of this book, risk regulation—that is regulation that attempts to protect human health—has increased dramatically since the 1980s. This book helps us understand why. Attitudes to risk have changed as advances in medicine, sanitation, and agriculture contributed to dramatic improvements in life expectancy throughout the last century. Risks that were once seen as unavoidable are now considered intolerable. Zealous anti-risk activists have heightened our intolerance for small risks and their campaigns often promote product bans or new regulation to reduce the "hazards" that they have identified.

But, risk regulation as it is currently implemented has many pitfalls. In some cases, regulations to address one risk can introduce other risks. In many cases, expenditure to reduce a risk could save many more years of life if spent reducing another risk. These issues are not currently considered by many of the interest groups calling for more risk regulation, the public supporting those calls, or the governments who respond by introducing more regulation. Instead, risk activists and regulators focus on the potential benefits of risk regulation while ignoring the costs.

The chapters in this book help us to understand the importance of considering the costs of regulation and basing decisions about regulation on sound science and economics. They help us to struggle with the difficult question: how safe is safe enough?