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Product Safety and Managerial Decisions

Editor's Introduction

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Product safety has become an increasingly prominent component of managerial decisions. A variety of societal institutions impose regulations and other constraints on corporate decisions and have created institutional structures that greatly affect the economic consequences of unsafe products.

Formerly, government regulations consisted of efforts to ensure safe food and drugs and to address risks from isolated products, such as children's toys. Now the scope of these regulations is quite widespread. Moreover, the tremendous increase in liability for product safety that occurred with the liability crisis in the mid-1980s greatly increased the stakes involved in product safety decisions. This change in the liability burden in turn has influenced insurance company practices as well as the insurability of particular products.

In many instances, there is a fundamental interaction between regulatory policies and liability. Tobacco is now, for example, the object of a wide variety of liability suits pertaining to addiction, medical costs, and environmental tobacco smoke. Moreover, government regulatory agencies are threatening to increase the regulation of tobacco products beyond current warnings and smoking restrictions. This situation is not an anomaly. Many other high-profile products such as breast implants, exploding truck gas tanks, and lead paint have also been the object of prominent liability cases as well as regulatory actions.

In some cases, the corporate response can be to alter the product to comply with a new regulation or to avoid the costs imposed by liability suits. However, such actions to foster product safety may occur too late if the liability burden is so extensive that it threatens the viability of the company. The asbestos industry, A.H. Robins (the

producer of the Dalkon Shield contraceptive device), and the entire US private aircraft industry have faced either bankruptcy or a virtual elimination of their economic activities as a result of product liability costs. Product safety decisions are not an incidental concern for the corporate public relations offices but are now often quite central to the survival of the company itself.

The effect of these regulations and liability costs on corporate decisions depends on both their structure and the economic incentives they create. The seven studies in this special issue focus on how these government regulations of product safety affect corporate decisions and safety outcomes. These articles are particularly instructive in determining how these safety regulations affect risk outcomes.

The reference point for each of these papers is an economic efficiency standard. Ideally, the task of the government is not simply to promulgate regulations to eliminate risk. Rather, the government should create incentives for efficient balancing of risk and cost. This balancing includes not only actions by corporate decision makers but also risk choices made by individuals. Government regulations do not dictate safety outcomes even in situations in which they are technology-forcing. There is often an important behavioral response on the part of the product user that greatly influences product safety. Several papers in this special issue explore how these behavioral responses affect the ultimate safety consequences of the regulatory policy. In doing so, the perspective of each of these papers is outcome-oriented.

Government regulators often predict dramatic policy effects of safety regulations based on

changes in the engineering attributes of the product, irrespective of possible changes in the behavior and the choices of product users. Several papers in this special issue will document the fundamental role that consumer responses to product safety characteristics have in determining the ultimate effect of these regulations.

The first paper by W. Kip Viscusi and Gerald Cavallo addresses the effect of child-resistant safety mechanisms for cigarette lighters. Using an original sample based on a field test of safety lighters, the authors present the first in-depth documentation of the mechanism by which safety precautions may slacken because of the advent of a safety device. Parents consider the lighter equipped with these safety mechanisms to be safer, which in turn leads to a diminished concern with access to the lighter by children. The authors estimate that the adverse effects of this moral hazard response ranges from 43–75% of the safety improvement. On balance, the lighter safety mechanism enhances safety, but the potential benefits of promoting increased parental vigilance with respect to safety are substantial as well.

The paper by Carl Phillips and Richard Zeckhauser explores the task of communicating the risks and benefits of moderate alcohol consumption. Unlike some risky products, such as cigarettes, for which more use of the product increases one's risk, the consequences of alcohol consumption are more complex in that evidence suggests that moderate consumption reduces coronary heart disease, whereas excessive alcohol consumption has a variety of well-known adverse health consequences. Phillips and Zeckhauser consider the complex problem of how to communicate these risks and benefits to foster sound consumer decisions. Since these choices must be made on a decentralized basis, regulations mandating behavior would not be as appropriate as would a hazard communication approach. Phillips and Zeckhauser explore a variety of possible mechanisms for communicating this information so that it will be understood and will lead to more responsible decisions.

Individual responses to safety contexts will vary depending on the person-specific benefits and costs of safety measures. Joni Hersch explores this heterogeneity, focusing on systematic differences by race and gender. Her analysis considers major product risks, such as seat belt use and smoking, as well as a variety of personal health-

related activities, including exercise and dental care. She finds that healthy behaviors are positively correlated, though not perfectly. Moreover, many of the gender and racial differences that are apparent in overall sample means either decrease substantially and, in some cases, are reversed after controlling for personal characteristics. One of her chief economic variables of concern is the opportunity cost of time, which is a principal determinant of the cost of undertaking safety precautions.

The role of individual decisions is also the subject of the paper by Richard O'Connor, Glenn Blomquist, and Ted Miller. Their focus is on individual decisions to use seat belts, which has long been a focus of economic inquiries into the behavioral response to government safety regulations. They find that the decision to wear seat belts is not random but is quite consistent with individuals' other safety choices. Cigarette smoking, exercise patterns, and dental visits serve as proxies for individuals' valuations of health, and these personal protective activities had the expected correlations with seat belt use. Behavioral responses to regulations are not a random phenomenon but reflect quite consistent patterns of economic behavior that are reflective of the underlying attitudes toward safety of the affected individuals.

The next two papers in this issue focus on two major regulations by the US Consumer Product Safety Commission (CPSC). The CPSC remains the primary regulatory agency that is broadly concerned with consumer product safety.

One of the best-known CPSC regulations is that pertaining to bicycle safety standards. Gregory Rodgers focuses on the behavioral responses by bicyclists as a form of compensatory behavior resulting from the greater safety of bicycles after the CPSC regulation. He concludes that the regulatory changes were offset by roughly 5–25% because of the changes in helmet use due to the decreased risk of head injury after the regulation.

The paper by Michael Moore and Wesley Magat explores the effect of the CPSC lawnmower safety standards, such as the deadman control device. The main issue that it explores is whether the net effect of the safety requirements combined with any behavioral response had a net beneficial effect on safety. Their results suggest that the safety standards seem to be more consequential than the labeling regulation in terms of

the effect on product injuries. In this as well as in the other studies, there remains the open question of whether these regulations generate benefits in excess of their costs.

The final paper by Paul Freeman and Howard Kunreuther expands the range of topics to include the role of liability and insurance with respect to environmental risks. Using as their two case studies asbestos abatement liability coverage and insurance to protect commercial property lenders and owners from environmental contamination liability, the authors explore how insurance affects the monitoring of firm behavior as well as the safety incentives firms will have. Their

particular concern is the interaction between government regulations mandating particular types of behavior and liability, which may be affected by violation of these regulations. Their paper outlines an approach that places greater reliance on environmental insurance coupled with well-defined regulatory standards as an alternative to the current system's reliance on tort liability with hazy standards for firms' appropriate level of care.

The major theme that emerges from this special issue is that product safety regulations can be influential. However, the particular policy mechanism selected and the behavioral response to this policy are central matters of concern.