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# The Half-Life of Policy Rationales

*How New Technology Affects  
Old Policy Issues*

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A CATO INSTITUTE BOOK



*New York University Press*

NEW YORK AND LONDON

# Consumer Protection Regulation and Information on the Internet

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The real issue is whether [consumer] protection is best provided by “regulation” or by “free competition.”

—Manuel F. Cohen, *Can Regulatory Agencies Protect the Consumer?* 1971

Just about everything we’ve ever done that has to do with communication and information has been digitized, and now we’re going to start tackling stuff that hasn’t been done because you can do it only with the Internet.

—Steven Levy et al., “The Dawn of E-life,” 1999

From apples to Z-cars, government regulation of consumer products abounds. We read health warnings on cigarette packs, bake pies with sugar rather than cyclamate, load nonflammable children’s pajamas into our efficiency-rated dryers, brush no-lead paint on the walls of our low-radon houses, serve less attractive apples because they have not been sprayed with alar, and strap our children into certified car seats in the back so that they will not be killed by mandatory airbags in the front.

The announced goal of all such regulation—consumer protection and the concomitant justification for regulation is everywhere the same—consumer ignorance. Consumers do not and cannot know enough, it is said, to make decisions that are in their own best interests.<sup>1</sup> Numerous federal and state agencies promulgate a plethora of rules, regulations, and

standards meant to make life safer for consumers. At the national level these administrative agencies include the Consumer Products Safety Commission (CPSC), the Environmental Protection Agency (EPA), the Food and Drug Administration (FDA), the Federal Trade Commission (FTC), and the National Highway Traffic Safety Administration (NHTSA).

The asserted inability or unwillingness of the market to provide sufficient information justifies extensive government regulation of consumer products. But with few exceptions, the government provides not information<sup>2</sup> but restrictions on what can be sold, how it is to be sold, and how it is to be used. As Walter Oi (1977, 21) observed, "The [government] agency charged with reducing risk and accident costs . . . can produce and disseminate information. . . . Governments have almost universally rejected this informational approach. The National Commission on Product Safety asserted that consumer education has little if any impact on the accident toll."

But if a lack of information is a major justification for government consumer protection, the case for government intervention may be seriously weakened by the dramatic increase in the availability of consumer information on the Internet. This technology makes low-cost, up-to-date information readily available to consumers. This chapter explores how technological advancements affect the ability of free markets to deal effectively with consumer demand for product information and quality assurance. It discusses the alleged market failure to provide adequate consumer information, the multiplicity of ways in which consumers obtain and use information, the market devices employed to generate and distribute information, and the role that the Internet is increasingly playing in the dissemination of product and service information.

### *Justification for Government Intervention*

To some, the necessity of government regulation of consumer products is obvious. For example, the former director of the NHTSA, Joan Claybrook (1978, 14), wrote, "In regulating for health and safety, government assumes what I believe to be one of its most basic functions, promoting the general welfare. Too many companies and industries refuse to recognize the multiple hazards of their technology and the government's legitimate interest in the public's health and safety." Others have developed theoretic-

cal arguments about the market's failure to provide the information necessary to ensure optimal consumer product quality and safety.

One of the more influential analyses of market failure was offered by Kenneth Arrow in 1962 (1972). In his essay, he contended that the market will not provide the optimal amount of information because information producers cannot appropriate a return on investment in information generation and dissemination. His argument, developed in a section of the essay entitled "Information as a Commodity," is that while the costs of researching, compiling, interpreting, and evaluating information can be substantial, they represent fixed costs at the time the information is to be disseminated. Because the marginal cost of distribution is frequently very low, anyone receiving the information can reconvey it cheaply, thus depriving the original producer of an appropriable return. "In the absence of special legal protection, the owner cannot, however, sell information on the open market" (1972, 225). Moreover, even if earning a return were possible, charging a positive price for the information that was commensurate with the necessary return, is likely to be inefficient. Arrow (1972, 225) noted that "if the [cost of distribution] were zero, then optimal allocation would obviously call for unlimited distribution of the information without cost." This public-good attribute of information, Arrow asserted, dooms its efficient provision by the market.

Arrow concluded that the market cannot provide information because it cannot offer a sufficient return and even that if it did, the allocation of information would be nonoptimal. His solution is to separate the reward for production of information from the charge to the users of information. This is accomplished by letting the government subsidize the production and dissemination of information. While Arrow originally was writing about the information surrounding invention, in principle his argument applies to any valuable information.

Writing nearly two decades later, Leland (1980, 268) observed, "As is well known, information on quality has many of the characteristics of a public good. . . . Under such circumstances inadequate resources will be channeled to providing information." Rothenberg (1993, 166, 172) argued similarly that

perceptively safer versions of a commodity, or commodities, that can protect users against predictable hazards, will be profitable and hence likely to be produced through competitive pressure. Even some forms of precautionary information—for example, safety ratings on consumer goods—will be



generated by the market. But these will be inadequate where product performance is hard to monitor by users, where hazards are not widely or accurately perceived, or where people do not realize that they are uninformed. . . . The market's myriad decentralized actions do not themselves ensure adequate safety. Centralized controls of various sorts are needed. These have been instituted in the form of regulations, constraints, information programs, licensing, and certification.

Building on Arrow's thesis, Akerlof (1970), Stiglitz (1979), and Carlton and Perloff (1994) offered models based on the assumption that markets fail to provide adequate consumer information. Given that assumption, Akerlof argued that in the absence of government regulation, low-quality products displace high-quality products, and Stiglitz predicted that prices rise higher than is compatible with competition.<sup>3</sup> In Akerlof's model, assume that a good comes in two qualities, high and low, and that while suppliers know the quality of their product, potential consumers do not. Moreover, customers cannot rely on the assurances of high quality from producers because such declarations would be seen as self-serving. Asymmetric information generates uncertainty among consumers who seek to purchase the high-quality good. They therefore offer a price, discounted by the uncertainty, that is below the cost of producing the high-quality good. At the prices offered, only low-quality goods survive in the market as suppliers refuse to sell high-quality goods at the discounted prices.

Stiglitz analyzed the price effects of incomplete information. Imagine an array of shops selling an identical consumer product. Searching among the stores for the best price is costly. For purposes of discussion, assume that under conditions of full information, the "competitive price" is \$10 and that it costs \$2 to search an additional store. With incomplete information, the owner of Arthur's Boutique believes that he can charge \$12 for the good because it would cost a customer in his store \$2 to check at Barbara's Smart Shop. Other storeowners come to believe that they can charge \$12. But if other stores are charging \$12, Arthur can now charge \$14! Given the assumed initial conditions, the logic of the process leads to a monopoly price, even though a number of independent stores are competing for customers. Here, Stiglitz argued that the failure of the market to provide sufficient information leads to monopoly pricing.

Far from describing market pathologies, the models of Akerlof and Stiglitz provide insight into why the market produces and distributes so much consumer information. Consider the Akerlof lemon problem. It is

because the consumer cannot accurately assess quality that the seller assures the consumer of high quality by selling brand-name merchandise coupled with guarantees, warranties, and a no-questions-asked return policy.<sup>4</sup> These widely employed devices reduce the risk associated with unknown product quality (Grossman 1981; Heal 1976; Viscusi 1978). Industry certification, franchise membership, and reliance on repeat buying are additional devices protecting the consumer against “lemons.” The effectiveness of these devices in cultivating trust is built on the reputation of the seller, the manufacturer, and the independent certifier (Klein 1997). Even causal observation demonstrates that low-quality products do not drive high-quality products from the market. And in Stiglitz’s marketplace, a single merchant need only advertise her prices to undercut overpriced competitors.

Ideas have consequences. One manifestation of the idea that markets fail to provide adequate consumer information was the passage of the Consumer Product Safety Act in 1973, which established the Consumer Product Safety Commission (CPSC). Its mission: “The CPSC is responsible for protecting the American public from unreasonable risks of injury and death from 15,000 types of consumer products” (1999 *Performance Report*, March 2000, ii). As originally conceived, the commission was to generate and disseminate information about consumer safety issues. But as Viscusi (1982, 36) found, “[The Consumer Product Safety Commission] has a positive mandate, stated clearly in the act, to pursue informational strategies as an alternative to command-and-control regulations. But it has largely ignored this mandate.” Indeed, the commission quickly moved from general rule making and the promulgation of generic safety standards to adjudication and product bans and recalls.<sup>5</sup>

How does the CPSC identify unreasonable risk? According to Viscusi (1991, 51),

The Consumer Product Safety Commission (CPSC) and other product safety agencies do not generally assess the presence of market failure. Typically, they do not even examine the frequency of injuries, but simply rely on injury counts that are unadjusted for intensity of activity. The existence of risk is often treated as being tantamount to evidence of the need for regulation.

Indeed, injuries are counted when an accident is associated with a product but not necessarily caused by the product (Rubin 1991, 61). In addition to employing a dubious measure of risk, Rubin (1991), Thomas (1988), and

Viscusi (1991) noted that the CPSC makes no effort to employ systematic cost-benefit analysis in its deliberations.

Did the CPSC abandon its informational function too quickly as it rushed to embrace a regulatory function? Paul Rubin (1991, 60) offered a suggestive example. Three-wheeled all-terrain vehicles are less stable, and hence more dangerous, than four-wheeled ATVs.

When consumers learned that four-wheeled ATVs were safer, probably as the result of information put out by the agency and others, they ceased buying three-wheeled models. The CPSC negotiated a virtual ban on three-wheeled ATVs with the industry, but the ban had little, if any, effect. By the time of the ban, consumers had virtually stopped buying the three-wheeled variety.

In this instance, the informational approach appears more flexible and expeditious than a product ban. First, consumers can be informed more quickly than a ban can be put in place. Second, the dissemination of information preserves consumer choice, and third, as Rubin pointed out, it is less costly to correct errors in information than to undo the damage of an erroneous ban.

In addition, Rubin, Murphy, and Jarrell (1988) found that CPSC recalls are costly. Focusing on only one cost, the decline in a firm's value as measured by stock prices, the authors estimated that the average loss in equity value was 6.9 percent per recall. The CPSC issues about 300 recalls a year (1999 *Performance Report*, March 2000, ii). In contrast to the costs of CPSC regulations, Viscusi's empirical study (1985) found that the CPSC's bans, recalls, and mandatory standards have had no measurable effect on consumer safety. Rubin (1991, 59) reiterated that "there is no reliable public evidence that any of the CPSC's policies has saved any lives." The CPSC's own economist, in charge of the bicycle safety standards project, remarked that the agency's standards have had no statistically significant favorable effects on bicycle-related injuries. The CPSC first promulgated bicycle design standards more than 25 years ago (Petty 1994, 22).

In other words, the benefits of CPSC regulations have yet to be established. Perhaps this should not be surprising. Researchers studying the CPSC find that it devotes few resources to measuring risk, to performing rigorous cost-benefit analysis, or to generating and disseminating useful consumer information. While beyond the scope of this chapter, public-choice theory may explain why a government agency should prefer regulation and adjudication to the distribution of information to consumers.

But even if a federal agency pursues an informational function, is there any reason to think that consumers are more likely to obtain better or more timely product information from a government bureau than from a number of independent private sources operating on both sides of the market? Consider the following example. Recently, the federal government dropped saccharin from its list of cancer-causing chemicals after the release of new studies cited by the National Institute of Environmental Health that demonstrated “no clear association” between saccharin and human cancer. Before the government agency acted, the American Cancer Society, the American Medical Association, the American Dietetic Association, and the American Diabetes Association previously had given saccharin “a clean bill of health.” The 2000 institute report also dropped from its list ethyl acrylate, which was used in the manufacture of latex paints and textiles (Associated Press, May 16, 2000).

The problem here is fundamental. When a state agency is vested with monopoly authority to certify, ban, or recall products, the incentives are perverse. If it fails to ban a dangerous product, the agency will come under attack, because the costs of the error are highly visible. Conversely, if the agency erroneously bans a safe product, the costs to consumers and manufacturers, though potentially large, are hidden and therefore much less likely to generate political scrutiny. Thus there is an asymmetry in the consequences to the agency of making regulatory errors. Failing to ban an unsafe product can pose a genuine threat to the agency, whereas banning a safe product occasions much less of a political risk. Prudent bureaucrats err on the side of issuing bans.<sup>6</sup>

The problem is compounded because products are not neatly divided into “safe” and “unsafe.” The potential harmfulness of a product is measured in degrees. Such subtleties are lost on an agency put in the position of having to respond to political pressure from various constituencies “to protect the American people from unreasonable risk.”<sup>7</sup> The agency has little incentive to perform sophisticated risk assessments or cost-benefit analyses.

By contrast, private certifiers, middlemen, and product testers competing in the market are much less likely to err systematically in one direction or to fail to provide information about the degrees of product hazard. The market process is an error-correcting process quite unlike that found in the political arena. Competition among these market participants rewards research into product quality and timeliness and accuracy in the information distributed. That private sources of consumer information are now

online further reduces the likelihood that the CPSC's mandatory standards and product bans play a critical role in protecting consumers. In difficult, even controversial, cases, open exchange and debate are more likely in the private sector—leaving the final responsibility to weigh the evidence with the consumer.

### *How Consumers Acquire and Use Information*

If we insist on elevating the static, textbook conditions of “perfect competition” to a normative standard for evaluating market performance, the market will fail by definition. Efficiency, properly understood, must include the transaction costs of gathering information, market search, product evaluation, and negotiation. Like the frictionless plane of physics, “perfect information” may be a useful fiction when answering certain economic questions, but the assumption does not help us evaluate policies for a world in which gathering and assessing consumer information are costly.

An honest assessment of alternative policies must include an analysis of the costs of regulation and the potential for regulatory failure. Even a world in which markets perform with less than textbook perfection, regulation does not win by default. A number of recent studies have demonstrated that product quality and safety regulations either have failed to protect the consumer or have deprived the consumer of desirable, sometimes lifesaving, products.<sup>8</sup>

The nature of information may represent less a source of problems than a set of opportunities for sellers to win customers. To understand the role of information in market exchange, it is useful to consider the sources of consumer information and how individuals actually use information when making consumption choices.

Consumers use a wide variety of sources of product information, including personal experience, friends and acquaintances, manufacturers and vendors of goods, and independent suppliers of consumer product information. For example, repeat business is based on the experiences of satisfied consumers. Not only must producers supply a satisfactory good, they also must reduce the cost to the consumer of identifying and finding the good again. The latter is achieved through branding and advertising. Friends, colleagues, and acquaintances can be a rich source of information based on market experiences. All of us have asked friends to recommend

an auto mechanic, a dentist, or realtor or about their experiences with house paint, an automobile, a grocery chain, or a private school. In addition, we ask friends to recommend sources of consumer information. The personal experiences of friends remain a major source of consumer information because of their low cost, prompt acquisition, and trust in their accuracy.

Producers provide information about goods and services through electronic and print advertising and consumer trade fairs. Because advertising is understood to be self-interested, its credibility must be vouched for by reputation. In turn, commercial reputation is established by citing the duration of a firm's history; by conducting business in an attractive facility; by selling brand-name goods; by displaying memberships in trade associations, including the local Chamber of Commerce and the Better Business Bureau; and by hiring celebrity spokespersons to grace advertisements.

Hiring Michael Jordan as a spokesperson and conducting business in a well-appointed facility are meant to convey substance and commitment. Consumers intuit that such sunk investments, which produce neither direct product quality nor specific consumer information, can be recovered only if the firm remains in business. These investments are hostage to continuing good consumer relations. Such investments signal an intention to conduct business with an eye to the long haul and suggests that an ongoing enterprise will offer quality products at competitive prices and follow up with acceptable consumer services.<sup>9</sup>

Determining the quality of different types of goods uses very different approaches to gathering information. For example, only by eating a breakfast cereal, drinking a particular wine, or wearing a certain perfume will an individual learn whether or not he or she likes the product and wants to purchase it again. An advertisement picturing a beautiful woman putting on a particular fragrance may associate the perfume with glamour and sex appeal, but it cannot inform a consumer as to how the fragrance will interact with her body chemistry. While critics of advertising scold about the emptiness of such advertising, it is precisely the case of experience goods that there are no sources of useful consumer information *ex ante*. All such advertisements can do is attempt to get consumers to try the product (Nelson 1974; Telser 1974).

Agglomeration economies make full use of consumers' reliance on sellers' reputations. Department stores offer a vast array of goods and services within a single store. Added shopping convenience is only a partial explanation. A store known for its good dress and fine china departments is



unlikely to have a poor beauty salon and men's furnishings department. Thus, a store can leverage established reputations into other departments and product lines. Such strategies have value precisely in those cases in which reputation and consumer service matter the most.

The golden arches sign along the highway instantly conveys information to the traveler about the array, quality, and price of the food offered by the restaurant, whether the McDonald's is in Winston-Salem or Bozeman. The establishment of national and regional store chains allows a retailer's reputation to be established quickly, at low cost, and in new locations. This enhances competition while permitting the retailer's reputation to redound to the products, including the unbranded ones that she sells. Conversely, national product brand names may be a substitute for investing in establishing a local business reputation (Png and Reitman 1995). Standardized, prepackaged brand products, from Del Monte canned corn and Titleist golf balls to Imation computer disks and Camel cigarettes can be purchased with confidence about quality from a full-service shop, a local discounter, or a corner mom-and-pop convenience store.

Finally, independent sources of consumer information abound. *Consumer Reports*, *Consumer Digest*, plus literally hundreds of specialty magazines, books, newspaper columns, and radio and television programs disseminate information about products, services, and businesses to consumers. Trade associations, consumer groups, special-interest clubs, *Good Housekeeping*, Underwriters Laboratories, and J. D. Power all stand ready to certify the quality of products and services. Agents supplying independent certification have an incentive to remain objective and fair because the authenticity of their recommendations is all that keeps them in business. By the same token, manufacturers and retailers have an incentive to acquire good ratings and publicize them.

Consumers do not need to be *generally* knowledgeable about the multiplicity of consumer products. Instead, they need and seek *pointed information* in the initial stage of acquiring a particular good or service. A consumer need not be generally knowledgeable about 18-speed mountain bikes, digital cameras, or gas grills if he does not bike, take pictures, or cook out. Only when a good shows up on their radar screen do consumers seek specific and timely information to assist them in making sound consumption choices. Thus evidence that consumers are not well informed about consumer products in general has no implications about the adequacy of the market in providing information or the wisdom of the consumer in remaining ignorant (Klein 2000, 32–33).

Furthermore as Klein (1997) argued, consumers may need only *assurance* of product quality and safety, not comprehensive information. Technical information may be of little use to the consumer. Consumers need not understand the intricacies of lens alignment in a pair of binoculars to make a sound selection and are rarely put in a position in which they must repair a product or explain the side effects of a prescription medicine. Indeed, the market may simplify the knowledge required to make a sound decision. In turn, that can reduce the costs of acquiring and interpreting useful information. Brand names, reputation, warranties, and seals of approval all are assurances that substitute for detailed technical knowledge.

In many cases in which information about products or product characteristics is difficult to obtain and assess, the market offers *ex post* protection that reduces consumer uncertainty at the time of purchase. Guarantees, warranties, and return policies provide this assurance. The value of these devices is enhanced by the use of brand names that permit consumers to draw on direct product experience. Their use is also made more valuable when employed by established retailers.

### *How the Internet Has Changed the Equation*

In 1999 an estimated 80 million Americans had direct access to the Internet (Levy et al. 1999, 40). A communications revolution is under way that includes not only growth in e-commerce and an altogether new means for the direct delivery of digitized goods and services but also the Internet as a prompt, low-cost, convenient source of up-to-date consumer information.

Indeed change is coming so quickly in the way retailers conduct business and in the growth of Web firms that specialize in providing independent consumer information that there is no way of cataloging the informational services currently available on the Internet. Instead I can only suggest the types of informational services offered. Jacob Schlesinger (1999, A1) pointed out that with the advent of the Internet, “shoppers have two powerful new weapons—information about what competitors around the country are charging for goods, and easy access to those goods online if the nearby merchant won’t deal.”

The technology exists today to transmit data, images, and text from any Internet site to any other designated site or sites and to do so at high speed and low cost. Any information good that can be reduced to a string of digital code can be transmitted over the Internet. These information goods



include books, scholarly journals, magazines, reports, maps, graphic images, pictures, data, test results, service bulletins, software, financial analyses, educational materials, and the evaluation of legal, medical, and other professional services.

Internet technology has shifted the margin of effectiveness between private and public sources of consumer information. The Internet provides up-to-date consumer information about an incredible array of goods and services at very low cost. Perhaps its singular advantage is the breadth of consumer products covered. A person need only access the Internet to find information about virtually any good or service. The Internet is a one-stop source of consumer information.

In addition, different types of information are readily available from technical reports and product reviews to certification lists and personal experiences reported by members of specialized user groups. A bad product review posted on the Internet can quickly reach tens of thousands of consumers. The Internet is magnifying the adverse consequences concomitant with marketing uncompetitive low-quality and unsafe products.

Household names such as *Consumer Reports*, *Consumer Digest*, and the Better Business Bureau have gone online to provide consumer information. The first two charge a fee for service. PriceSCAN is one of a number of sites that displays the prices and shipping charges of suppliers of hundreds of consumer products, from books to videos, affording the Internet user the opportunity to make side-by-side comparisons. Hundreds of specialized user groups, chat rooms, support groups, and clubs exist that permit Internet users to draw interactively on the experiences of others with consumer goods and services. Such sources of information are convenient, inexpensive, and continually updated. CoinUniverse lets prospective buyers determine market prices of rare coins before contacting dealers. The Professional Numismatic Guild protects buyers of rare coins by offering online arbitration should a dispute arise between buyers and Guild member dealers (*Barron's*, July 19, 1999, 24). The latest version of vendor catalogs are routinely placed on the Internet and offer timely information about merchandise, prices, warranties, return policies, and ordering security. Many Web sites publish reviews and test results. The Internet has given new meaning to the notion of comparison shopping.

Consumers are turning in increasing numbers to a growing variety of professional services offered on the Internet. At least 170 firms offer online brokerage services, some of which are full-service brokerage houses offering stock reports and market analysis. As Edward Iwata (1999, B1) ob-

served about Internet financial services, "There's a goldmine of information out there and much of it is free." Besides brokerage services, interactive family financial-planning programs are available on the Internet. By supplying personal data, customers can use these programs to assess the adequacy of their insurance coverage, portfolio diversification, saving rate, and risk management. A growing number of households are doing their banking via the Internet. E-banking permits customers to check account balances, transfer funds, pay bills, and apply for loans, all with a high level of security. A number of Internet firms specialize in brokering consumer and real estate loans. The Internet facilitates the canvassing of a large number of lenders, thereby allowing consumers to secure more competitive terms than those offered by local financial intermediaries. Better information and heightened competition—both made possible by the Internet—afford consumers more protection than does periodic government certification.

E-shopping also permits individuals to purchase real assets. Increasingly, real estate and major consumer purchases, including automobiles and appliances, are being made over the Internet. In an economy of high labor mobility, the Internet affords the opportunity to explore the full range of real estate offerings in local and distant communities before actual traveling there for firsthand assessment. Additional information about a community's climate, schools, and taxation, for example, is readily available on the Internet. Real estate tours on the Internet enhance the effectiveness and reduce the expense of finding a home. Such readily available information undermines the rationale for licensure of real estate agents.

CARFAX provides a measure of protection to consumers purchasing used automobiles by allowing individuals to trace the title of any automobile sold in the United States. No federal or state government agency provides such information. Millions of families regularly plan their vacations and make hotel, automobile, and airline reservations over the Internet. Again, the chief advantage of using the Internet is the ease with which people can identify and sort through a long list of options, selecting those that come closest to meeting their price and service demands. By facilitating such comparison shopping, the Internet reduces the need for state business regulation of public accommodations and public transportation. How can state certification and regulations compete with assessments, updated daily, from actual users of travel agents, hotels, and transportation services?

With Internet financial advice as a model, national and regional professional associations are planning Web sites for offering legal and medical advice. Such services could permit a local attorney to consult with distant specialists or access a reference library in which case precedents are updated daily. Already Law.com provides information about legal processes free and e-law services for a fee (Lublin 1999, B1). Similarly a physician can obtain specialized diagnostic assistance or tap into a frequently updated database. From there it is but a small step to develop Internet services offering consultation to those seeking health care advice. HealthSurfing and WebMD permit customers to obtain medical information. Intel's e-Medicine links physicians directly with their patients and facilitates timely consultation and the exchange of medical test results. Privacy is protected by information security firms (Kornblum 1999, A1). MVP provides health information (Lublin 1999, B1). The latest in medical research is available to the layperson on HealthGate Data's Web site. The site publishes articles from the *New England Journal of Medicine* (Johannes 1999, B1).

HealthAxis, eHealthInsurance, and QuickenInsureMarket are, according to Marilyn Chase (1999, B1), "among the companies letting consumers take a more active role in choosing their health insurance coverage, a process that has traditionally been mediated by agents." Better pricing is the result because consumers are better informed, there is more competition, selling costs are reduced, and customers make more comparisons. Furthermore, consumers are using these sources of health information. Jupiter Communications reports that 45 percent of Internet users have sought health care information on the Web (Kornblum 1999, A1). The low-cost availability of such information reduces the need for licensing professionals as a means of protecting consumers.<sup>10</sup>

New companies such as NetEffect are helping existing Web companies improve their consumer services by setting up help buttons, e-mail linkages, and facilities for answering consumer questions in real time (Meyers 1999, B1). BigStep, an Internet mall, provides a well-advertised location for new Web start-up companies. The companies tend to be small and deal in retail consumer products and services. By screening companies before they set up a site at BigStep, the latter provide at least a modicum of consumer protection and the reputational economies usually associated with bricks and mortar shopping centers (Weber 1999, B1).

An array of useful information awaits the consumer online: reading reviews, test results, or consumer reports; identifying alternative products and associated options; engaging in comparison shopping; auditioning a

product; and exchanging views in a chat room. The Web's comparative advantage lies in its low costs of organizing, storing, retrieving, and transmitting information. The information can take the form of text, pictures, graphic images, data, audio, and video. User groups provide access to highly specialized information bringing together sometimes thousands of individuals in a coordinated exchange of information and opinions. Much of the information available on the Internet is free—perhaps an ironic market answer to Arrow's optimal pricing criterion.<sup>11</sup> In addition, Internet technology ushers in a new era of competition because thousands of new online firms have been created and because e-commerce is conducted on world markets. The welfare-enhancing effects of Internet information on competition follow even if only a fraction of consumers avail themselves of and act on that information. Competitive responses are triggered at the margin. Products and firms earning bad reviews on the Internet lose customers. Those losses occasion improvement in product quality and consumer service or business failure. It is simply not the case that most or all consumers must access the Web in order for the Internet to contribute to consumer protection in general.

Market processes are not ideal. Information remains costly to obtain and evaluate. Mistakes will be made. The point is that the Internet drastically reduces consumer information costs and therefore improves consumer choice. In addition, common-law remedies against misrepresentation and fraud may provide legal redress.

### *Conclusion*

Markets exist for the generation and dissemination of consumer information. Entrepreneurs attempt to economize on the amount and complexity of the information desired by consumers in order to make cogent choices. The burgeoning use of the Internet as a tool of consumer research reflects the first phenomenon, while the substitution of assurance, reputation, and trust for detailed consumer information reflects the second. In addition, after-purchase remedies reduce consumer risk associated with unknown product quality. Such *ex post* devices as warranties, return policies, and pay-only-if-satisfied sale terms reduce transaction costs by economizing on costly *ex ante* information. To the extent that consumer protection regulation is based on the claim that consumers lack adequate information, the case for government intervention is weakened by the Internet's powerful

and unprecedented ability to provide timely and pointed consumer information.

#### NOTES

1. An argument that is widely accepted is that consumers systematically underestimate the risk of death from activities that have a relatively high hazard rate and overestimate the risk from sources with low hazard rates. New evidence, however, finds to the contrary that consumers gather and use information efficiently in estimating risk (see Benjamin and Dougan 1997; Benjamin, Dougan, and Buschena 1999).

2. From my examples of regulations, only the warning on a cigarette pack and the energy efficiency rating for a clothes dryer constitute government-provided information.

3. See, for example, the intermediate microeconomic theory textbooks by Landsberg (1999) and Perloff (1999).

4. Akerlof mentions some of these "counteracting institutions" like guarantees, brand names, and franchises.

5. For a more complete discussion by a former commissioner on how the CPSC operates, see Scanlon and Rogowsky 1984.

6. On a related issue, Thomas's empirical study finds that CPSC regulations are "excessively stringent" (1988, 113).

7. Political pressure can compromise the quality of consumer decisions in other ways. Organized pressure by highly interested regulated firms can prevent a government agency from releasing potentially useful consumer information. For example, until recently the Federal Aviation Administration refused to release data on airline flight delays, baggage losses, or accident rates even though the FAA collects such data.

8. Often the threat to consumer welfare is exaggerated by regulatory agencies. For examples, see Abelson 1991 on radon; Adler 1992 on lead; Avery 1998 on pesticide standards; Blevins 1997, Higgs 1995, Hudgins 1997, and Ward 1992 on the FDA; Gough 1997 on the EPA; Kazman 1997 on airbags; Levy and Marimont 1998 on deaths from smoking; McKenzie and Shughart 1987 on airline safety after deregulation; and Whelan 1999 on cyclamates.

9. For more discussion of the economics of signaling product quality, see Allen 1984; De Alessi and Staaf 1992; Ippolito 1990; and Shapiro 1983.

10. Also see Ginsburg and Moy 1992 on other new technologies that reduce the benefits of physician licensure and, more generally, Carroll and Gaston 1983 and Rottenberg 1980 on occupational licensure.

11. Usually firms posting advertisements on a Web site pay for the information made available to consumers.

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