

Does Information on the Internet Weaken the Case for Consumer Protection Regulation?

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... the real issue is whether [consumer] protection is
best provided by >regulation= or by >free competition.=

Manuel F. Cohen
(Stigler and Cohen, 1971, 21)

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.

(Levy, et al, 1999, 41)

From apples to Z-cars, the regulation of consumer products
abounds. The justification for such regulation is the same
everywhere—consumer ignorance. Consumers do not and cannot
know enough to make decisions that are in their own best interest,

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Any remaining errors are mine.

properly understood.¹ Numerous federal and state agencies
promulgate consumer protection rules, regulations, and standards.
At the national level these administrative agencies include the

¹There is a widely accepted argument that consumers systematically
underestimate the risk of death from activities that have a relative 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 Daniel K. Benjamin and William R. Dougan 1997
and Daniel K. Benjamin, William R. Dougan, and David Buschena 1999.

Consumer Products Safety Commission, the Environmental Protection Agency, the Food and Drug Administration, the Federal Trade Commission, and the National Highway Traffic Safety Administration.

The asserted inability or unwillingness of the market to provide sufficient information justifies extensive government regulation of consumer products. But with few exceptions government provides not information, 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) observes, AThe [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.@ One result is that consumers make fewer choices about the products they purchase.

But if a lack of information is a major justification for 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. The purpose of this paper is to explore how technological advancements affect the ability of free markets to deal effectively with consumer demand for product information and quality assurance. The paper discusses the alleged market failure to provide adequate consumer information, the multiplicity of ways consumers obtain and use information, market devices employed to generate and distribute information, and the role that the Internet increasingly is 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), writes, AIn 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 develop careful theoretical arguments about the market's failure to provide the information necessary to assure optimal consumer product quality and safety.

One of the more influential analyses of market failure was offered by Kenneth Arrow in 1962 (1972). In the essay, he argues that the market cannot be relied on to provide information because producers cannot appropriate a return and, even if they could, the allocation of information would be non-optimal. The former follows because of the low cost of reconveying information. Once someone has the information, the original producer can no longer charge a price sufficient to cover the cost of generating and disseminating it. The misallocation effect follows because charging a positive price for information that once produced could be distributed at close to zero marginal cost is sub-optimal. Arrow's 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.² Writing nearly two decades later, Leland (1980, 268) observes, AAs 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.@

Building on Arrow's thesis, Akerlof (1970), Stiglitz (1979), and Carlton and Perloff (1994) offer models based on the assumption that markets fail to provide adequate consumer information. Given that assumption, Akerlof argues that, in the absence of government regulation, low quality products displace high quality products and Stiglitz predicts that prices will be higher than is compatible with

²For my purposes, it would needlessly sidetrack the discussion to deal directly with Arrow's argument. The reader is encouraged to see Demsetz's (1969) critique of Arrow's influential thesis.

competition. Akerlof's Akerlof's problem has become standard fare in undergraduate microeconomic theory texts.³ Stiglitz demonstrates, under a set of restrictive assumptions, that incomplete information can lead to monopoly pricing even when there are a number of independent vendors selling the same product.

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

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. These widely employed devices reduce risk associated with unknown product quality (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 rests upon the reputation of the seller (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 over-priced competitors.

Ideas have consequences. One manifestation of the idea that markets fail to provide adequate consumer information was the 1973 passage of an act establishing the Consumer Product Safety Commission. 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) observes, [The Consumer Products 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.⁴

⁴For a more complete discussion by a former Commissioner on how the CPSC operates, see Scalon and Rogowsky (1984).

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 and 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) observe 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) offers 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 argues, 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) find that CPSC recalls are costly. Focusing on only one cost, the decline in a firm's value as measured by stock prices, the authors estimate an average

loss in equity value of 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) finds that CPSC bans, recalls, and mandatory standards have had no measurable effect on consumer safety. Rubin (1991, 59) reiterates 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, finds that the agency's standards have had no statistically significant favorable effects on bicycle-related injuries. The CPSC first promulgated bicycle design standards over 25 years ago (Petty, 1994, 22). In other words, the benefits of CPSC regulations have yet to be established.

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. This followed release of new studies cited by the National Institute of Environmental Health that demonstrate "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 ethyl acrylate from the list. The latter 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 to act 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. Failure to ban an unsafe product can pose a genuine threat to the agency while banning a safe product occasions much less of a political risk. Prudent bureaucrats err on the side of issuing bans.^{5, 6}

How consumers acquire and use information

The alleged market failure associated with incomplete information may represent less a source of consumer problems than a set of opportunities for sellers to inform and attract 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.

⁵On a related issue, Thomas's empirical study finds that CPSC regulations are excessively stringent (1988, 113).

⁶Often 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, Levy et. al 1998 on deaths from smoking, Kazman 1997 on airbags, Whelan 1999 on cyclamates, Ward 1992, Higgs 1995, Blevins 1997, Hudgins 1997 on the FDA, Gough 1997 on the EPA, and McKenzie and Shughart 1987 on airline safety after deregulation.

First, consumers use a wide variety of sources of product information. These include 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 must reduce the cost to the consumer of identifying and finding the good again. The latter is achieved through branding and advertising (Nelson, 1974; Telser, 1974).

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 remains a major source of consumer information because of the low costs of acquiring it and assessing its veracity.

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 named goods, by displaying memberships in trade associations, including the local Chamber of Commerce and the Better Business Bureau, and 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 understand that such sunk investments, which produce neither direct product quality nor specific consumer information, are recovered only if the firm remains in business. These investments are hostage to continuing good consumer relations. Such investment signals 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.⁷

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 where 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 MacDonald's is in Winston-Salem or Bozeman. The establishment of national and regional store chains allows the reputation of a retailer to be established quickly, at low cost, in new locations. This enhances competition while permitting the reputation of the retailer to redound to the products, including unbranded ones that she sells. Conversely, national product brand names may be a substitute for investment in establishing a local business reputation.

⁷For a further discussion of the economics of signaling product quality see: Allen (1984), DeAlessi and Staaf (1992), Ippolito (1990), and Shapiro (1983).

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 House Keeping*, Underwriters Laboratories and J. D. Powers 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.

Second, consumers do not need to be *generally* knowledgeable about the multiplicity of consumer products. They need and seek *pointed information* in the initial stage of the process 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.

Third, as Klein (1997) argues, 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 effect a product repair 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 are all assurances that substitute for detailed technical knowledge.

Fourth, in many cases where 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.

How the internet changes the equation

Today an estimated 80 million Americans have direct access to the Internet (Levy et. al 1999, 40). A communications revolution is underway that involves not only exponential growth in e-commerce and an altogether new means for the direct delivery of digitized goods and services, but includes 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 this section can only be suggestive of the types of informational services offered. Jacob Schlesinger (1999, A1) argues that, with the advent of the Internet, AShoppers have two powerful new weapons B 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.@

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 being 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*, 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 are full-service brokerage houses offering stock reports and market analysis. As Edward Iwata (1999, B1) observes about Internet financial services, "There's a goldmine of information out there and much of it is free." Beyond 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. An increasing 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 periodic government certification.

CARFAX provides a measure of protection to consumers purchasing used automobiles by allowing individuals to trace the title of any automobile sold in the U.S. 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 an individual can identify and sort through a long list of options, selecting those that come closest to meeting the price and service demands of the consumer. 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 on a daily basis. Already Law.com provides information about legal processes free and e-law services for a fee (Lublin, 1999, B1). Similarly a physician could 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, onHealth, 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. 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 results 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 licensure of professionals as a means of protecting consumers.⁸

⁸Also 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.

A fabulous 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 are just some of the informational activities on the Internet. 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.

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. If economics teaches us anything, it is that decentralized competitive markets best serve consumer welfare. 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.

Finally, market processes are not ideal. Information remains costly to obtain and evaluate. Positive information costs imply that consumers act rationally when they are not fully informed before making consumption decisions. Mistakes will be made. The point is that the Internet drastically reduces consumer information costs and, therefore, improves consumer choice. Where unscrupulous vendors exist, common-law remedies against misrepresentation and fraud 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 relevant consumer information.

References

- Abelson, Philip H. (1991). The radon threat: the role of flimflam in public policy. *Regulation* 14 (No. 4): 95-100.
- Adler, Jonathan H. (1992). Is lead a heavy threat? *Regulation* 15 (Fall): 13-15.
- Akerlof, George A. (1970). The market for lemons: quality uncertainty and the market mechanism. *Quarterly Journal of Economics* 84: 448-500.

Allen, Franklin. (1984). Reputation and product quality. *Rand Journal of Economics* 15, (Autumn): 311-27.

Arrow, Kenneth J. (1972) (1962). Economic welfare and the allocation of resources for invention. In *Readings in Industrial Economics*, Volume Two, edited by Charles K. Rowley, 219-36. New York: Crane, Russak & Company.

Associated Press. 2000. Government Takes Saccharin Off List of Cancer-Causing Chemicals. *Winston-Salem Journal* (May 16): A3.

Avery, Alex. (1998). Pesticide pole vaulting. *Regulation* 21 (Spring): 8-9.

Barron=s. (July 19, 1999): 24.

Benjamin, Daniel K. and William R. Dougan. (1997). Individuals= estimates of the risks of death: Part IBA reassessment of the previous evidence. *Journal of Risk and Uncertainty* 15: 115-33.

Benjamin, Daniel K., William R. Dougan, and David Buschena. (1999). Individuals= estimates of the risks of death: Part IIBnew evidence. (unpublished).

Blevins, Sue A. (1997). FDA: Keeping medication from patients. *Regulation* 20 (Winter): 13-14.

Carlton, Dennis W. and Jeffrey M. Perloff. (1994). *Modern Industrial Organization*, 2nd edition. New York: HarperCollins.

Carroll, Sidney L. and Robert J. Gaston. (1983). Occupational licensure and the quality of service: an overview. *Law and Human Behavior* 7 (September): 139-46.

Chase, Marilyn. (1999). An E-shopper=s guide to health insurance as it moves to the Web. *Wall Street Journal* (October 22): B1.

Claybrook, Joan. (1978). Crying wolf. *Regulation* 2 (No. 6):14-16.
CPSC. 2000. *1999 Performance Report*, March, Washington, DC.

DeAlessi, Louis and R. J. Staaf. (1992.) What does reputation really assure? The relationship of trademarks to expectations and legal remedies. *Economic Inquiry* 32, (July): 477-85.

Demsetz, Harold. 1972 (1969). Information and efficiency: Another viewpoint. In readings in *Industrial Economics*, Volume Two, edited by Charles K. Rowley, 237-62. New York: Crane, Russak & Company.

Ginsburg, Paul B. and Ernest Moy. (1992). Physician licensure and the quality of care: the role of new information technologies. *Regulation* 15 (Fall): 32-39.

Gough, Michael. (1997). EPA=s sham science reveals political agenda. *Regulation* 20 (Winter): 15-16.

Heal, Geoffrey. (1976.) Do bad products drive out good? *Quarterly Journal of Economics*: 499-502.

Higgs, Robert. (1995.) *Hazardous to Our Health? FDA Regulations of Health Care Products*. Oakland, CA: Independent Institute.

Hudgins, Edward L. (1997.) Kessler=s FDA: An autopsy. *Regulation* 20 (Winter): 10-12.

Ippolito, Pauline M. (1990.) Bonding and nonbonding signals of product quality. *Journal of Business* 63: 41-60.

Iwata, Edward. (1999). The Web becomes rich resource for investors. *Winston-Salem Journal* (October 18): B1.

Johannes, Laura. (1999). Medical journal faces questions over Web deal. *Wall Street Journal* (October 26): B1.

Kazman, Sam. (1997). NHTSA air bag mandate misfires. *Regulation* 20 (Winter): 17-18.

Klein, Daniel B. (1997). Trust for hire: voluntary remedies for quality and safety. In *Reputation*, edited by Daniel B. Klein, 97-133. Ann Arbor, MI: University of Michigan Press.

Kornblum, Janet. (1999). Intel seeks to protect e-medicine. *USA Today* (October 12): A1.

Landsburg, Steven E. (1999). *Price Theory*, 4th edition. Cincinnati, OH: South-Western College Publishing.

Leland, Hayne E. (1980). Minimum-quality standards and licensing in markets with asymmetric information. In *Occupational Licensure and Regulation*, edited by Simon Rottenberg: 265-84. Washington, D.C.: American Enterprise Institute.

Levy, Robert A. and Rosalind B. Marimont. (1998). Lies, damned lies, & 400,000 smoking-related deaths. *Regulation* 21(No. 4): 24-29.

Levy, Steven *et al.* (1999). The dawn of e-life. *Newsweek* (September 20): 38-78.

Lublin, Joann S. (1999). To find CEOs, Web firms rev up search engines. *Wall Street Journal* (October 26): B1.

McKenzie, Richard B. and William F. Shughart II. (1987). Deregulation and air travel safety. *Regulation* 11 (Nos. 3 & 4): 42-47.

Nelson, Philip. (1974). Advertising as information. *Journal of Political Economy* 81: 729-54.

Oi, Walter. (1977). Safety at any price? *Regulation* 1(No. 3): 16-23.

Perloff, Jeffrey M. (1999). *Microeconomics*. Reading, MA: Addison-Wesley.

Petty, Ross D. (1994). Bicycle safety: a case study in regulatory review. *Regulation* 17 (No. 2): 22-24.

Rothenberg, Jerome. (1993). Social strategy and the tactics in the search for safety. *Critical Review* 7: 159-80.

Rottenberg, Simon, editor. (1980). *Occupational Licensure and Regulation*. Washington, D.C.: American Enterprise Institute.

Rubin, Paul H. (1991). Why regulate consumer product safety? *Regulation* 14 (No. 4): 58-63

Rubin, Paul H., R. Dennis Murphy, and Gregg Jarrell. (1988). Risky products, risky stock. *Regulation* 12 No. 1): 35-39.

Scanlon, Terrence and Robert A. Rogowsky. (1984). Back-door lawmaking at the CPSC. *Regulation* 8 (No. 4): 27-30.

Schlesinger, Jacob. (1999). New E-economy. *Wall Street Journal* (October 18): A1.

Shapiro, Carl. (1983). Premiums for high quality products as returns to reputations. *Quarterly Journal of Economics* 98: 659-79.

Stigler, George J. and Manuel F. Cohen. (1971). *Can Regulatory Agencies Protect the Consumer?* Washington, D.C.: American Enterprise Institute.

Stiglitz, Joseph E. (1979). Equilibrium in product markets with imperfect information. *American Economic Review* 69: 339-45.

Telser, Lester G. (1974). Advertising and the consumer. In *Advertising and Society*, edited by Yale Brozen, 25-42. New York: New York University Press.

Thomas, L. G. (1988). Revealed bureaucratic preference: priorities of the consumer products safety commission. *Rand Journal of Economics* 19: 102-113.

Viscusi, W. Kip. (1991). Risk perceptions in regulation, tort liability, and the market. *Regulation* 14 (No. 4): 50-57.

Viscusi, W. Kip. (1985). Consumer behavior and the safety effects of product safety regulation. *Journal of Law and Economics* 28: 527-54.

Viscusi, W. Kip. (1982). Health and safety. *Regulation* 6 (No. 1): 34-36.

Viscusi, W. Kip. (1978). A note on >lemons= markets with quality certification. *Bell Journal of Economics* 9: 277-79.

Ward, Michael R. (1992). Drug approval overregulation. *Regulation* 15 (Fall): 47-53.

Whelan, Elizabeth. (1999). The bitter truth about a sweetener scare. *Wall Street Journal* (August 26): A27.