

Consumer Protection Economics: A Selective Survey

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I. Introduction

Consumer protection regulation is one of the primary activities of the Federal Trade Commission. Until the early 1970s, the Commission solicited little economic advice on consumer protection policy and little was offered by economists. Even economists employed at the FTC spent virtually no time on consumer protection matters before 1974, in contrast to the substantial commitment to competition case work and research. The first small budgetary allocation for economic analysis of consumer protection policy within the FTC was made in the mid-1970s; a division of economists to support this function was established in 1978. Before this time, decisions dealing with "unfair or deceptive acts or practices" were apparently judged to be issues that would not benefit from an economic perspective.²

In many ways this is not surprising. The economics of consumer protection regulation is essentially contained in the economics of information³; twenty years ago there was no "economics of information." The traditional economic view

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¹ In most cases, papers in this volume are revised versions of papers presented at the conference.

² The legislative authority for consumer protection activities at the Federal Trade Commission is contained in the 1938 Amendments to Section 5 of the FTC Act. The operative sentence of Section 5 states that "Unfair methods of competition in or affecting commerce and unfair or deceptive acts or practices in or affecting commerce are declared unlawful." The "unfair or deceptive acts or practices" clause is generally regarded as the legal basis for the Commission's consumer protection function. Like its antitrust authority, this legislative language maximizes the agency's flexibility in defining the scope of consumer protection law.

³ The development of the law and economics literature has also had a substantial influence in the changing economic views of consumer protection regulation. This is especially true in evaluations of regulatory and judicial approaches to perceived information problems. Because of space limitations, I will not review many of the related developments in this area.

of consumer protection issues at the time was one of indifference or outright hostility. The economic consensus of twenty years ago is probably fairly summarized by the position that as long as there are a sufficient number of competitors, consumers receive an optimal mix of goods and services.⁴ The issue of contract enforcement and the possibility of fraud would probably have been acknowledged, but not as problems of interest to economists.

This is not to imply that economists did not recognize the importance of information in markets. In the *Wealth of Nations* (1776), for instance, Adam Smith's observation that "the wages of labour vary according to the small or great trust which must be reposed in the workmen" reflected the special economic response required for one type of situation where information about the quality of a service is not available before purchase. However, with very few exceptions,⁵ recognition of the issue did not lead to any serious analysis of the implications of imperfect information for individual decision making or for overall market performance. This trivializing treatment of information's role in markets provides an easy explanation for the long-standing indifference of economists towards consumer protection policy.

In the last twenty years the situation has changed dramatically. Today's economics journals are literally filled with articles detailing the many possible effects of costly information.⁶ While models based on assumptions of perfect information are certainly appropriate for many — and maybe even for most — economic problems, there is a growing recognition that in some cases information *matters*. Many market arrangements and many government policies are today seen to be fundamentally shaped by the information environments in which they exist. Contracts, liability rules, retailing organizations, advertising, the degree of vertical integration, the nature of investment patterns and industry structure are just a few examples.

These developments have certainly been of interest to those trying to evaluate or to guide consumer protection policy. At institutions like the FTC it is now routine for perceived consumer protection problems to be discussed in terms of possible market solutions, the likely effects of alternative regulatory approaches on consumer and firm behavior, and the associated benefits and costs of these interventions.⁷ The theoretical developments of the last twenty years have brought the analytical tools of economics to consumer protection regulation.

Despite these substantial developments, consumer protection regulation remains a topic of great controversy. This is certainly the case in the political and

⁴ The monopolistic competition view of markets might be the exception here in that excess competition in some activities such as advertising was expected.

⁵ Stigler's 1961 paper is certainly an anomaly in the literature of the time as is the earlier paper by Scitovsky (1950) which also focused on the implications of information in consumer markets.

⁶ See, for instance, Arrow (1974), Barzel (1977), the symposium described in Spence (1976), and Stiglitz (1979).

⁷ For a policy discussion of these issues, see, for instance, the *Policy Review Session on Consumer Information Remedies*, FTC (1979).

regulatory arenas.⁸ Here the fundamental debate is often framed as a contest between the "pro-consumer" groups, who essentially argue that consumers do not have access to sufficient information to influence market performance adequately, and the "pro-business" groups, who argue that market discipline is a better arbiter of product quality and consumer choices than government regulation.

The issues are no more settled in the economics profession, and surprisingly, the tension here is fundamentally the same as in the policy arena. As briefly reviewed in the next section, the economics of information literature has developed along two major lines: the first is the identification of the variety of ways in which asymmetric information can affect market performance, and the second is the detailing of the many mechanisms that the market or government can use to reduce these information problems. While this literature certainly supports the view that information asymmetries can be a substantial force in market performance, it is inconclusive on the appropriate role for consumer protection policy. Policy responses to information problems usually vie directly with market responses to these problems. The literature to date has very little guidance to offer to policymakers who ideally seek to implement policy remedies only when they are more efficient than private responses.

In light of this situation and the needs of the FTC in formulating consumer protection policy, this conference was organized with two primary goals:

- (1) To highlight the fact that the economics literature currently contains very little empirical research that attempts either to measure the magnitude of information problems in consumer markets or to test alternative theories of the precise nature of these problems and the effectiveness of possible solutions;
- (2) To bring together a capable and diverse group of economists with varied interests in policy and the economics of information to explore empirically the effects of current consumer protection policy as well as underlying market behavior.

A selective review of the economics of information literature as it relates to consumer protection policy issues is presented in Section II. The conference papers are briefly reviewed in Section III. As is clear from the broad range of topics covered by these papers, this collection includes some very interesting work. Nevertheless, in many cases the papers here are only tentative first steps in an effort to understand behavior in markets with costly information; and as such, the papers often raise as many questions as they seek to answer. Concluding remarks follow in Section IV.

We hope that the conference and this volume will interest others in the economics of consumer information problems. We especially hope that economic researchers will attempt to develop methods that will lead to better measure-

⁸ Averitt (1981), for instance, reviews some of the legal and political controversies surrounding the FTC's unfairness authority. See also Beales, Craswell and Salop (1981) and some of the papers cited there.

ment and understanding of both market discipline and alternative regulatory policies. Policy can be improved only if there is a realistic understanding of the magnitude of the problems themselves and the effectiveness and limitations of alternative remedies in actual use.

II. The Economics of Information in Consumer Markets: A Brief Review

The economics literature relating to consumer protection regulation is large and growing rapidly; it is impossible to review it adequately here.⁹ Instead I would like to discuss briefly some of the major developments in this literature and to highlight their relationship to problems in consumer protection policy. The work dealing with information about prices is covered first; the range of research exploring issues created by asymmetric information about product quality is reviewed in the second section.

A. Information About Prices

Lack of information about price is generally taken to be a simpler problem to analyze than information about product quality. Historically, it is this problem that was addressed first. Stigler's 1961 article, which was seminal in the modern literature, observed simply that if consumers did not have costless information about firms' prices, some degree of price dispersion would persist even in otherwise competitively-structured markets. Much work has followed Stigler's paper, refining the modeling of the consumer's search process, more carefully addressing the seller's role in disseminating information and setting prices, and explicitly dealing with the effects of individuals' search cost differences.¹⁰ However, these refinements have not changed the primary result of this line of literature: if information is costly to acquire or to disseminate, prices will be higher than at competitive levels, and price dispersion may persist in the market. The magnitude of these effects depends fundamentally on the cost of informing consumers.

The primary impact of this literature on policy has been to increase the scrutiny paid to regulations and to private devices that restrict the flow of price information. This has been most significant in the area of occupational regulation where restrictions on price advertising are gradually being removed. For instance, in 1978 the FTC passed a trade regulation rule prohibiting states and trade organizations from restricting price advertising for eyeglasses and related services. The published basis for this rule¹¹ was essentially the conclusion of this literature:

⁹ Reviews of various segments of this literature include Hirshleifer (1973), Hirshleifer and Riley (1979), Salop (1978), and Stiglitz (1979).

¹⁰ See, for instance, Butters (1977), Rothschild (1973), Salop (1976) and Stiglitz (1979).

¹¹ See Statement of Basis and Purpose and Final Trade Regulation Rule for the Advertising of Ophthalmic Goods and Services, FTC, 16 CFR Part 456, Federal Register, June 2, 1978, Volume (footnote cont'd)

that restricted price advertising increased the consumer's cost of acquiring price information and thus increased the average price and the dispersion of prices in the market. Removal of regulatory prohibitions on advertising by lawyers, by dentists and other medical professionals, and by drug stores are other recent examples of this movement.

This focus on the costliness of price information and its role in setting market prices has also had an effect on antitrust policy.¹² It has contributed to the general diminution of the structure-conduct-performance view of markets that had long been a foundation of antitrust policy. If in some markets information about prices is more efficiently conveyed by large sellers than small sellers (through advertising or reputation, for instance), then a growth in concentration could be beneficial to consumers. This would explain the often-observed reality that markets characterized by many small sellers frequently seem to perform rather poorly, while markets with just a few sellers seem very competitive (see Stiglitz (1979), for instance). One of the primary changes in the eyeglass market since the removal of restrictions on price advertising, for instance, has been the substantial growth of chain retailers — who advertise regularly and who appear to have been a substantial force in bringing prices down.¹³

While these developments in the literature have been helpful in understanding regulatory policy, several price information issues have not been addressed. A basic premise of the literature to date is that price is immediately and objectively verifiable upon inspection. In this sense, these price information analyses are equally applicable to all quality characteristics of goods which are similarly verifiable — “inspection characteristics” in the Nelson (1970) terminology. On the other hand, this line of literature is not applicable to more complex price information. I would like to mention two such situations that have arisen in regulatory issues at the FTC: prices of multi-product sellers and “uncertain” prices.

Multi-product sellers, such as grocery stores, provide the efficiency of collecting a wide variety of goods in one location. This localization of so many goods with one seller and the consumer's cost of moving between sellers make price competition in these markets fundamentally different from that analyzed in the literature to date. The magnitude of the computational task and the stochastic nature of purchases from such sellers makes direct price comparisons difficult.

43, No. 107. This portion of the rule was eventually remanded to the Commission by the review courts for evidentiary reasons; however, many state legislatures had enacted the essence of the rule in the meantime.

¹² The usual distinction made between “consumer protection problems” and “antitrust problems” is that the former involve consumer information deficiencies while the latter involve problems that would be eliminated by sufficient competition. The issue of price advertising strains this already-strained distinction, as does any consumer information issue that has implications for the structure of markets or the institutional nature of competition in them.

¹³ In some states other explicit or implicit restrictions on chains were also removed, making an assessment of causality difficult. In November 1984, the FTC opened a new rulemaking that would override remaining state laws that continue to restrict commercial practices of opticians.

port policy initiatives. In particular, the major question of what the implicit contract is must be added to the explicit contract questions. Let me mention two types of cases where this issue has arisen in recent FTC actions: the first deals with systematic post-warranty failures and the second with firm's post-sale information obligations.

In a series of cases beginning in the late-1970s,³³ the FTC issued legal complaints against a number of auto and other durable goods manufacturers who were alleged to have knowingly sold goods with systematically higher failure rates in major components of the good and who were not voluntarily accepting liability for the "unexpected" post-warranty failures. The primary legal basis for the complaints was a deception charge: namely, that the manufacturer failed to disclose material facts that would have affected purchase decisions and use and care decisions. Essentially this charge assumes that, absent a disclosure to the contrary, consumers expect components of the product to exhibit "normal" failure rates and "normal" maintenance costs and that they expect "abnormal" failures to be the responsibility of the manufacturer.

In support of this implicit contract theory, proponents point to the fact that the major auto manufacturers sometimes extend *ad hoc* warranty coverage beyond the legal warranty on unusual problems and that consumer complaints show that consumers expect manufacturers to share in the costs of such repairs. However, even if the existence of such an implicit contract is accepted, there is currently no way to determine the terms of that contract for enforcement purposes and no explanation for why the contract was breached in a particular instance when it is honored in other cases. Further, a policy of public enforcement fundamentally alters the concept of an implicit contract as one that is self-enforcing or disciplined by reputation. To support such a policy requires a move into the more nebulous realm of implicit contracts that would be agreed upon if enforcement were feasible.

The second type of case involves the manufacturer's failure to disclose certain information discovered after the sale. Here the issue typically involves the post-sale discovery of a design defect and the identification of some related maintenance action that would reduce the expected cost of the problem. In this type of situation it is puzzling that manufacturers do not contract with consumers to provide the maintenance information to reduce the expected costs of operation.³⁴ Of course, a major problem with such a contract is that consumers and third parties would find it very difficult to determine when the contract has been breached, since the information is discovered and held privately by the manufacturer. The argument implicit in the FTC cases of this type is that public enforcement is needed to provide the discipline to support otherwise efficient con-

³³ See Calfee and Ford (1985) for a brief description of the program and some of the cases in it.

³⁴ A recent example here is a defect case against International Harvester (FTC Docket No. 9147) in which the company was found in violation of the FTC's unfairness statute because it failed to disclose a safety problem with the fuel covers on its equipment, and there were cost-effective actions that owners could have taken to reduce the likelihood of injury.

tracts for post-sale maintenance information. There has been very little systematic study of issues of this type and no relevant empirical work. The incentives for producers to supply information on a continuing basis are not well understood.

Beyond these enforcement and implicit contract issues, a primary focus of traditional consumer protection policy on contracts has been the concern over particular contract provisions themselves, often attacked under the legal doctrine of unconscionability.³⁵ Prohibitions on the required use of manufacturer's parts as a condition of the warranty (Eisenach, Higgins, and Shugart (1984)), restrictions on creditor remedies (FTC Credit Practices Rule), and limitations on the disclaimer of implied warranties (UCC) are all examples of specific contract term regulations.

When contracts are viewed as goods, the concern over particular contract provisions is essentially a concern over the "quality" of the contract. In this sense, the regulatory prohibitions on contract terms could be viewed simply as minimum quality standards designed to preclude "low" quality contracts from the market. However, the types of contract provisions at issue in these regulations often do not follow unambiguous quality dimensions. Moreover, the move away from direct regulatory approaches has been somewhat slower in the case of contracts when compared to that for products. In current consumer protection regulation, direct minimum quality standards are viewed as a rather restrictive regulatory approach for product quality problems (in fact, they are generally used only for drugs, food and safety issues). But minimum quality standards are still commonly considered for contract provisions in the regulatory setting and are implicitly adopted in the judicial determination of unconscionability. Possibly the fact that there has been very little formal analysis of contracts that would parallel even the theoretical analyses of the quality and price of goods in markets with information asymmetries has contributed to this more static view.

4. Policy Approaches to Quality Problems

(a) Liability Rules

The economic literature on liability standards has developed substantially in the last 10 years. Much of this work has focused on legal liability as a solution to third party injury problems, like automobile accidents, and to externality problems, like pollution.³⁶ However, liability rules can also be used in some market settings to increase product quality. In cases where information problems result in products with too low quality, legal liability standards are another policy option to change the equilibrium market quality.

The economics literature in this area has generally focused on the relative

³⁵ See Kornhauser (1976) for a discussion of the history and current questioning of legal views.

³⁶ See, for instance, John Brown (1973) and Steven Shavell (1980) for examples of the accident literature and Polinsky (1980) for the externality literature.

These information difficulties, I suspect, are largely responsible for the pattern often observed in these markets: large amounts of price advertising, significant variation in item pricing over time, features, coupons, and substantial variation in retail margins across categories and brands of goods. The multidimensional and stochastic nature of the problem makes it similar to some of the quality information problems that have been addressed, but the ease with which prices can be changed by the seller and the large number of dimensions (creating the need for summary measures) make it essentially different from the usual quality problem. At a minimum, this pricing information problem defies the conventional wisdom that pricing issues are much simpler to analyze than quality information issues.¹⁴

Uncertain prices, that is, prices that are not fixed and known at the point of sale, also raise unexplored issues. It is traditional in the purchase of life insurance, for instance, that the buyer pays a nominal price at the point of purchase but that part of this price is later refunded as a "dividend" at the discretion of the seller. Similarly, the purchase of durable goods often requires the subsequent purchase of replacement parts at prices that are set by the seller. The fact that these institutions survive and are not replaced by full pricing contracts at the point of sale suggests that some type of reputation mechanism operates to discipline sellers.

The case of uncertain prices seems to fall much more directly into the reputation and implicit contracts literatures that have developed for product quality and labor issues.¹⁵ Yet even with reputational constraints, it would seem that this pricing problem could still be colored by Stigler-type information costs leading to the same type of supra-competitive prices and price dispersion. Whether these information costs would have differential effects on the different parts of the price seems to depend fundamentally on the nature of the reputation mechanism. For instance, if the consumer's assessment of the seller's reputation for dividends is completely determined by his own experience with dividends, pricing would be less competitive for the second part of the price and dividends would fall as the consumer ages. Other reputational assumptions would predict different pricing patterns. Because of the concreteness with which the *ex post* price can be measured, this type of market might allow for cleaner tests of both

¹⁴ At the FTC, for instance, issues involving this type of market are repeatedly addressed: what deception standard should be applied to grocery stores attempting to claim "lowest prices"? how significant is it if too strict a policy is adopted? what merger policy should be adopted for grocery chains? are the information issues here significant and how should they enter the analysis? should firms be allowed to restrict access to "price checkers" who wish to publish the data? how important is it that private property concerns be balanced against the value of improved information in these markets? do grocery stores have appropriate incentives to stock sufficient merchandise when they advertise price specials (Unavailability of Advertised Specials Rule — currently being reconsidered)?

For evidence on grocery retail margins across categories, for instance, see Albion (1983). See also Lynch (1983) and Steiner (1984) for discussions of retail pricing issues.

¹⁵ See, for instance, Allen (1984), Carmichael (1984), Klein and Leffler (1981) and Shapiro (1983).

the Stigler-type information phenomenon and the effectiveness of reputations and the speed with which reputational adjustments are made.

B. Information About Quality

The behavior of markets with imperfect information about the quality characteristics of goods and services has been the focus of a great volume of recent literature. Here it is much more difficult to summarize the major findings neatly. The literature has a number of branches, and there is little empirical testing to rank these developments.

The basic "problem" is generally agreed upon: if it is difficult for consumers to assess the quality of goods sold by individual sellers in a market, there is an opportunity for sellers of low quality goods to attempt to pass their goods off as high quality goods. If successful, competition will drive sellers of high quality goods from the market. This is true even if consumers can judge the average quality available. In the case where it is impossible to assess the quality of individual sellers' goods, this result is typified by the Akerlof (1970) "lemons" model in which, in his example, owners of the best used cars find that their cars are worth more than the prevailing market price and therefore do not offer them for sale. As a result only the lowest quality cars ("lemons") are sold. More general models, as those in which it is costly (rather than impossible) for consumers to assess the quality of goods offered by different sellers or where information costs differ across consumers or sellers, would modify the Akerlof result as in the case of price information above; at a given price, average quality would be lower (though not necessarily at the minimum level) and quality dispersion might remain when compared with perfect information results.

The first two sections below review the purely private approaches to remedying this quality problem: those involving information provided by the producer directly and those relying on information provided by others. The third section briefly discusses contractual approaches which can be purely private or which can rely on judicial enforcement. Finally, the literature on policy approaches is very briefly discussed, including the literature on liability rules, policies towards deception and fraud, and direct information and product quality policies.

1. Information Provided By Producers: Signals, Bonds and Reputations

A premise of the quality degradation "problem" is that consumers do not have accurate quality information. One possible source of quality information is, of course, producers themselves, since they usually know the expected quality they deliver. In the abstract, claims by producers are suspect because of their incentive to exaggerate the value of their goods. If producers' claims could be made credible, market performance could be substantially improved.

A primary focus of the recent literature in this area has been the identification of conditions under which producers can credibly make quality claims. The essen-

tial finding of this effort is that manufacturers' claims can be relied upon if manufacturers possess or can purchase other observable characteristics that are economically associated with the hidden quality characteristics.¹⁶ This association can be derived from some inherent cost or productivity relationship between the observable characteristic and the hidden quality, or from some bonding mechanism which gives the producer an economic stake in providing the promised quality. In the literature, these issues are discussed under the somewhat overlapping topics of signals, bonds and reputation.

In information theory, a *signal* is any bit of information that can improve the predictability of a second bit of information. In an economic setting, this predictability is derived from economic forces: for an activity to serve as an economic signal of quality, it must be less costly (or more productive) for high quality sellers to undertake the activity than for low quality sellers to do so. Spence (1974) initially introduced this idea in a labor market setting where higher quality workers were able to reveal this fact through an investment in education, because for them education was less costly to obtain than it was for lower quality workers. The idea has broad potential applicability: the use of warranties by sellers of high quality goods who would expect to pay less under the warranty; the amount of advertising used to attract new customers by sellers who depend on repeat purchase or referrals by satisfied customers (Nelson 1970); and the higher deductible amount chosen by low risk insurance buyers who expect to lose least from this choice (Rothschild and Stiglitz (1976)) are standard examples of economic signals.

Bonding devices, or *bonds*, are capital assets or secured monies which are forfeited if the bonded party does not perform as promised. In many market settings, voluntary bonding devices act as signals of quality: if the bond is sufficiently large, the presence of the bond reveals that the firm or individual does not plan to offer a low quality good or service; the loss of the bond value, once the low quality is discovered, is sufficient to make cheating uneconomic. Viewed in this way, quality-specific investments become information devices (Klein and Leffler (1981)). For example, designing and furnishing retail establishments so that they cannot be easily transferred to other uses acts as an assurance to customers that the firm can be relied on to provide the promised quality. Investment in durable brand name recognition, through advertising or other means, has the same effect (Kihlstrom and Riordan (1984)).

In general, quality bonds are signals of quality, but not all signals are necessarily bonds. To see this, it is important to make a distinction between two different types of quality issues: those where cheating can be detected (at least to some extent) *ex post* and those where it cannot. Bonding devices can be used only in the first case where "cheating" is detectable, since bonds depend fundamentally on the "punishment" inherent in the loss of the bond value. In contrast, non-bonding signals can arise even if low quality can never be detected in in-

¹⁶ The arguments in this section apply equally to hidden price characteristics as discussed above.

dividual units as long as there is some (known) cost or productivity advantage in acquiring the signal for high quality goods or sellers. In the Spence labor example, for instance, education is a non-bonding signal that screens higher ability workers from the pool of workers on the basis of a cost advantage in acquiring education; it has no bonding effect to prevent shirking by any type of worker once employed.¹⁷

The term *reputation* is used in the literature, and in common language, to capture the idea that a firm's quality claims can be relied upon. In economic usage, a firm's reputation is a bond which usually requires some investment to acquire. The stock of goodwill inherent in the firm's reputation can be lost if cheating is detected. For reputation to induce a firm to continually provide high quality goods, the firm's goodwill (like any bond) must be able to generate a stream of price premiums which will be lost (at least in part) if the firm cheats (Klein and Leffler (1981) and Shapiro (1983)). Moreover, this loss must be greater than the short-term gain from cheating. The premiums are the market return to the reputation asset, and in a competitive setting must be secured on the margin by firm-specific sunk costs sufficient to justify this return.

Policy Issues

From the perspective of consumer protection policy, the most pressing issue in the quality assurance area is the development of a better understanding of the market conditions under which producer signals or bonds will be a reasonably effective check on quality information problems, and ideally some empirical evidence that supports that understanding.¹⁸ From the theoretical developments to date, we can draw a few principles to guide policy. I will mention two:

i) The availability of information about cheating is a critical component of the market's use of bonds.

An essential feature of any quality bond, like reputation, is that cheating must be sufficiently discoverable. Otherwise, the bond will have little or no disciplining effect on the firm's behavior.¹⁹ Because the ability to punish the firm is distributed among individual consumers, it is the summation of individual reactions that is ultimately important in disciplining cheating. The ease with which cheating is detected and the speed with which this information spreads to future consumers should influence the size of the bond (and therefore the price premium) necessary to secure performance.

¹⁷ Under different economic assumptions, of course, educational expenses could serve a bonding function; for instance, this might be the case where education is specific to an occupation and where poor performance or ability is at least somewhat detectable.

¹⁸ Two recent empirical tests of the "lemons" model in product markets are Bond (1982) and Lacko (forthcoming).

¹⁹ On this count, Klein and Leffler (1981) assume that any cheating is immediately known by all consumers. Shapiro (1983) allows for a lag in discovery and some averaging over time, but again the knowledge is held by all consumers.

Characteristics of the market and of the particular type of quality involved should be relevant here. For instance, for stochastic quality issues involving differences in a low rate of defect, only a small percentage of consumers will actually get a defective good, and they will not be able to determine easily whether their breakdown is symptomatic of a higher breakdown rate overall. In contrast, a quality issue involving the use of inferior materials and a shorter useful life for all units of a good should be more easily diagnosed by a much larger segment of the market. To achieve the appropriate incentives in both cases, the bond and the premium would have to be much higher in the first case than in the second (assuming the same total reduction in value from cheating).

More generally, reputation or other bonding devices will be more effective in cases where information about cheating will spread broadly and clearly; for instance, where the quality degradation is widespread among consumers, where its cause is easily diagnosed, and where *ex post* information from other sources is widely available. This is the reason that the literature has so consistently focused on the frequency of repeat purchase as an important determinant of effective reputations: more frequent purchase by all consumers improves the development and spread of information, should cheating occur. However, it is important to an understanding of reputation and other quality bonds that the focus be kept on the relevant issue — the spread of accurate information if the firm cheats — rather than on one particular way in which that information will spread.

ii) The availability of sunk cost intensive production and distribution processes is necessary for bonding in a competitive setting.

For reputations or other quality bonds to survive competitive pressures, they must be secured on the margin by sufficiently large firm-specific sunk costs. In particular, this implies that the firm will adopt a production and selling process that is not necessarily cost-minimizing in the narrow sense. Thus, reputation or other quality bonds will be more effective quality controls when the magnitude of the cost implicit in this shift to a more sunk cost intensive process is relatively small. In markets where alternative production or distribution technologies are readily available which require sufficiently high sunk costs, bonding is a low cost alternative for dealing with this type of information problem; but bonds will be a high cost alternative in markets where both production and distribution inherently involve no sunk costs.

The rapid development in understanding these market approaches for dealing with quality information problems has had some impact on consumer protection policy, especially on economists' views of it. Certainly, the suspect and almost hostile view that was held towards advertising and other visible selling expenses in the past (see Scitovsky (1950), for instance) has changed dramatically in recent years. Proposals that explicitly or implicitly reduce the quantity of advertising, such as mandatory disclosures in advertisements, are treated more cautiously today. The focus of advertising regulation is held more tightly to issues of deception in the advertisement itself and the costs and benefits of correcting that deception. Also, accounting measures of profit in consumer goods industries

are more generally questioned because of the difficulty in accounting for reputation assets. In the practice of antitrust, however, the quality assurance role of sunk assets has yet to achieve much recognition;²⁰ here sunk costs and reputation are generally dealt with in the context of the "entry barriers" debate with its focus on the non-informational role of sunk costs in determining market structure and innovative activity.

Finally, in consumer protection policy involving product quality issues directly, more attention is now given to the issue of whether the market is likely to discipline firms adequately,²¹ and if the judgment is that it will not, to whether narrow information remedies might be sufficient to support otherwise private mechanisms. For instance, if quality measures of performance were made available even with a substantial lag, the sunk cost requirements to support reputations might fall enough to be supportable.²²

2. Information Provided By Others: Standards, Certification and Retail Distribution

Information about quality can also be provided by private parties other than the producer. Privately-developed standards and certification procedures and independent information providers are the primary examples in this class.

In the U.S., there are a large number of private organizations that develop standards of quality, sizing and compatibility for many product categories. These organizations are often non-profit groups set up as part of industry trade associations and are funded in a wide variety of ways, including fixed membership fees and direct quantity assessments.²³ Sizing and grading of lumber, model codes for building construction, and toxicity standards for children's crayons are just a few examples of privately produced standards. Many of these standards are invisible to consumers, effecting their quality improvements through intermediaries, but some, such as the Underwriters Laboratory certification, are aimed directly at consumers. Despite their prevalence and widespread use, private standards have been virtually ignored in the economics literature; there are no theories predicting when industry agreements will arise and how the standards produced will compare with efficiency criteria.

Certification procedures are similarly widespread. Independent testing laboratories test and certify that products meet specified quality standards. In

²⁰ The most significant exception might be antitrust cases dealing with vertical issues.

²¹ For instance, see the recent FTC policy statement on deception which incorporates this view (reprinted at 45 *BNA Antitrust and Trade Regulation Reporter* 689 (Oct. 27, 1983)).

²² For instance, FTC rules and cases in recent years have involved a number of information approaches: mandatory information disclosures of quality indices as in the R-Value Rule for insulation and the Octane Rule for gasoline, direct measurement of quality as in the measurement of tar and nicotine for cigarettes, and broader distribution of private information as in cases involving auto defects where the firms were required to more widely distribute information about problems as they are discovered (Calfee and Ford (1985)).

²³ For a description of some of these organizations, see Hemenway (1975) and FTC (1978).

some cases, the producer secures this certification directly as an assurance to his customers that the product meets certain quality standards. For instance, most electrical product manufacturers display the Underwriters Laboratory seal directly on their products. In other cases, retailers (or other large buyers) purchase the testing themselves before allowing the goods on their shelves.

More generally, it has long been understood (see Stigler (1961), for instance) that multi-product retailers can serve a quality assurance role by selecting and screening products. In this case, the certification is less formal than that of the independent laboratories, but the function is essentially the same.

Finally, independent information sellers do exist who sell information directly to potential buyers. *Consumer Reports*, *Good Housekeeping* and some of the auto magazines are prominent examples of mass-marketed, quality information providers. House inspection services for would-be purchasers and antique and jewelry appraisers are examples of information providers who give more direct quality assessment advice.

In each of these cases, the information provided is subject to the same types of quality problems they are designed to solve. Quality assurance devices, like reputation, thus become essential to guarantee the quality of the information provider himself. Moreover, the public good nature of the information when it is sold separately makes it very difficult for the seller to collect much of the value of the information. Some of the public good problem is circumvented when information is provided by the producer of the good directly.²⁴

One of the relatively unexplored economic topics raised by these issues is the allocation of the quality assurance role between the producer and the seller, and the effect this allocation has on empirical work done in consumer product industries. For instance, the retail margin on the generic (or non-leading brand) version of a good is often larger than the margin on the leading brand.²⁵ If this difference is determined by the differential quality assurance roles played by the retailer and the producer in the two cases, welfare implications related to the determinants of manufacturer or retailer returns would have to be carefully considered. Much of the advertising-price literature that demonstrates that manufacturers' prices are increased by advertising, as summarized in Comanor and Wilson (1979), for instance, would be subject to reinterpretation: higher advertising levels by manufacturers could simply reflect a shifting of the quality assurance role to the manufacturer, requiring a corresponding shift in the price premiums that guarantee that quality. Welfare conclusions from other branches of the advertising literature would be similarly affected.

Policy Implications

The improved understanding of the importance of information providers has

²⁴ See Beales, Craswell and Salop (1981) for a more thorough discussion of these issues.

²⁵ See Masson and Steiner (forthcoming) for ample evidence of this margin difference in the case of prescription drugs. See also Albion (1983) for evidence related to grocery products.

yet to have substantial effect on policy, though it is contributing to the growing controversy in some areas of antitrust policy and is opening up new areas of investigation. The active policy debate on the current *per se* prohibition on a manufacturer's ability to control retail prices through resale price maintenance (RPM)²⁶ is being fueled in part by an understanding that retail margins can affect the quality assurance role provided by certain retailers. For instance, if high profile department stores provide a fashion or other quality certification to a manufacturer's goods, the manufacturer has a direct stake in ensuring that retail margins are sufficient to persuade these retailers to carry his goods. RPM laws, in conjunction with the Robinson-Patman prohibition on price discrimination, currently make this quality certification difficult.

In the standards and certification area directly, the FTC has recently dropped a rulemaking that proposed to regulate all private standard setters and certifiers.²⁷ In its place, the agency has opened a program to investigate particular standard setters to determine if some individual standards have anticompetitive effects in prohibiting entry or limiting innovation. More generally, the public good nature of standards might be used to justify direct public support for standard creation (as in the support provided to private standard organizations by the National Bureau of Standards) and the development of standards by the regulatory agencies (for example, the mileage ratings by the Environmental Protection Agency and the tar and nicotine ratings by the FTC). This public good justification for government support and development of standards must, of course, be balanced against the concomitant political economy problems that inevitably arise. Once developed, for instance, government standards often effect a near monopoly on the measurement of relative quality, creating powerful incentives for affected parties to attempt to influence the development of the standards for their benefit.

3. Contracting Approaches to Quality Problems

Contracts are one of the long-standing approaches for dealing with trading problems where the quality of the good or service is not apparent at the point of sale. The law and, more recently, the economics literature make a distinction between explicit and implicit contracts.

Explicit contracts are usually written promises that specify either what will be delivered or the parties' responsibilities in such events as product failure or late delivery. In consumer goods markets, explicit contracts are generally warranties, although in the services area contracts specifying the good itself do arise. Credit contracts and health club agreements are examples of the latter.

Explicit contracts are usually taken to be legally enforceable in the sense that if disputes arise about performance under the contract, the injured party has the option of appealing to the courts to enforce the contract. In some consumer

²⁶ See Overstreet (1983) for a review of the RPM area.

²⁷ See FTC (1978) or *Federal Register* of December 7, 1978 — 43 FR 57269 for the statement of the proposed rule.

contracts, a more private approach is taken where the contract specifies that disputes will be first submitted to a private arbitration board, like that run by the Better Business Bureau.

In the economics literature, *implicit contracts* are usually contrasted with explicit contracts in two important ways: implicit contracts are not written, and they are not taken to be legally enforceable. The recent use and development of the implicit contract idea in economics has taken place primarily in the labor literature in an effort to understand employment relationships,²⁸ but the ideas and fundamental issues are directly applicable to product quality problems. It is usually argued that implicit contracts are used in cases where the conditions and responsibilities under the contract are too difficult or too costly to specify for inclusion in an explicit contract.²⁹ Because the parties to an implicit contract do not have legal recourse in the event of breach, implicit contracts must be self-enforcing or must be enforced by reputations. The ease with which a breach is discovered and that information spread to future customers again becomes a critical issue.

In consumer product markets, the idea of an implicit contract is therefore simply an alternative way of conceptualizing the promises a producer or seller can credibly make to consumers. In this sense, the discussion of information provided by producers in section 1 becomes directly applicable. Intuitively, the "implicit contract" label seems more appropriate for performance issues over time, as in specifying producer responsibility in the event of product failure, but substantively, the producer's credibility for product quality claims and for future performance claims involves the same issues.

The distinction between explicit and implicit contracts is more apparent than real in consumer product markets. Consumer lawyers would be quick to point out that some implicit contracts could be legally enforced, for instance, under the implied warranty of merchantability or the implied warranty of fitness for a particular purpose of the Uniform Commercial Code. More important, I think, is the "implicit" nature of most explicit contracts offered for consumer products. Most of these explicit contracts are not worth enforcing should a breach occur: the cost of raising the issue legally is much larger than the injury from the breach.³⁰ In these cases, few consumers would be expected to exercise

²⁸ See, for instance, Azariadis and Stiglitz (1983) and the other articles in that volume for recent developments.

²⁹ While plausible, this argument does raise issues, since the enforceability of contracts often depends on a reputation mechanism, which in turn depends on consumer reaction to cheating. If contract terms are complex, cheating may be difficult to detect and consumer reactions weak or haphazard. See Newbery and Stiglitz (1983) for further discussion of this point. Implicit contracts which are simply too costly to specify, for example, because there are many combinations of conditions which could arise in which behavior would have to be (and could be) specified, do not raise this problem.

³⁰ Warranties on toasters and coffee pots illustrate this point dramatically, but even most automobile defects would fall short of covering the legal and time costs of actually enforcing the warranty on an unwilling manufacturer. See Priest (1981) for an interesting discussion of consumer warranties.

their legal rights if the contract is not honored, making it difficult to argue that legal enforcement is a significant disciplining mechanism in these markets or a significant explanation for the explicit contract.³¹

The widespread prevalence of explicit warranties and other consumer contracts in these situations is thus somewhat puzzling in light of the standard theories of explicit contracts. Possibly these explicit contracts are offered not because they are legally enforceable, but because they are superior information devices for the development and efficacy of reputations. A written warranty, for instance, is a more specific articulation of a minimum that the manufacturer is willing to promise the purchaser in the event that problems arise with the product. If the producer does not honor the contract, all consumers who experience the problem will be more certain that a breach has actually occurred. This improves the clarity and diffusion of information about cheating and increases the effectiveness of reputations as a disciplining device in the market.

Viewed in this way, warranties or other consumer contracts are subject to the same quality problems as other goods. The more contracts are made clear and explicit, the more they take on the characteristics of experience goods (in the Nelson (1974) terminology): the quality of the contract becomes apparent after the purchase. Reputation and other bonding devices are more effective for experience goods than for goods with more credence-like characteristics.

Policy Issues

Our limited understanding of when and how consumer contracts are enforced and the almost total lack of evidence on these issues makes policy decisions in this area difficult. Even in the simplest case of explicit contracts, for instance, the best policy is uncertain. There might be a role for public enforcement of consumer contracts in cases where a seller systematically fails to live up to his contract and where the cost of each individual bringing a case is large relative to the loss. If a public agency can aggregate the claims in a way that reduces legal costs sufficiently, public enforcement might be economically justified.³² However, this enforcement tends to undermine the value of reputation, since consumers no longer need to rely on reputation as much. Whether an equilibrium that depends more on public enforcement is better than one that depends totally on private reputations is an empirical question about the efficiency of alternative market institutions — a question on which we have virtually no evidence.

In cases where explicit promises are not made, it is even more difficult to sup-

³¹ The economics literature on warranties generally assumes that all warranties are costlessly enforced. The extension of these analyses to costly enforcement is straightforward, and in cases where the cost of enforcement is large relative to the loss, this extension would completely undermine the value of warranties in these models. See, for instance, Courville and Hausman (1979), Grossman (1981), Palfrey and Romer (1982), and Matthews and Moore (1983).

³² At the FTC, for instance, warranty performance cases are usually justified on this ground. This is also the basis on which class action suits were established.

merits of alternative standards of liability, including strict producer liability, negligence standards and no liability in cases where product quality is measured as a failure rate.³⁷ Under the premise that consumer beliefs are an exogenous function of true quality (in particular, that perceptions are not influenced by other actions of sellers), the literature finds that liability standards that shift more liability to the producer improve welfare in cases where consumers underestimate true product quality and underreact to changes in actual quality.

This result is in marked contrast with much of the standard policy/legal discussion of product liability where consumer beliefs are assumed to be endogenous. In particular, the consumer is assumed to be led to expect a certain product quality only to be disappointed with the product that is actually provided — that is, liability rules are required because the consumer (justifiably) overestimates product quality. In this view, the producer is implicitly assumed to be able to influence consumer perceptions of quality and to profit if he can raise beliefs above the quality he will actually deliver. With its roots in contract law, liability for product failures (or any other measure of low quality) is viewed as a means of reducing producer incentives to deceive and of inducing him to provide the quality that is actually promised. In contrast with economic models, for instance, the policy/legal view would impose no liability if the producer adequately disclosed that his product was of low quality.³⁸

These divergent perspectives on the role of liability rules for quality problems highlight the fact that it is not consumer beliefs *per se* that are important in determining appropriate liability rules, but the entire process by which these beliefs are formed. The economics literature on liability rules implicitly assumes that sellers of higher quality products cannot make credible claims about their higher quality. As a result quality supplied in the market falls to too low a level reflecting consumers' (exogenously determined) belief process. In this setting, liability is used to raise the sustainable minimum quality level.

In the policy/legal view, liability stems more from the violation of an explicit or implicit quality claim than from some derived notion of efficient quality itself. In this sense, liability rules are seen to improve the overall credibility of quality claims, rather than to increase product quality directly. Thus, in contrast with the static consumer belief formation assumption of current economic liability models, the legal view is fundamentally premised on the idea that consumer beliefs can (and should) be influenced by producers. Liability rules are conceptualized as a method for improving the results of this belief formation process.

Liability Policy Issues

The idea of tying liability to the quality claims made for a product has significant appeal in designing liability standards for policy use. At least theoretically

³⁷ The primary article in this area is Spence (1977). Articles by Epple and Raviv (1978), Shavell (1980) and Polinsky and Rogerson (1982) are closely related.

³⁸ See, for instance, Posner (1972).

this improves the market's ability to offer a range of qualities to satisfy different consumer preferences. At a practical level, however, there are many unresolved problems. In complex products, it is not feasible for a manufacturer to meaningfully disclose the "quality" of all component parts, and in a relevant sense, the quality of each component does not matter — the overall quality of the product does. Yet when "problems" occur, they are usually problems with components. It is difficult for the legal system to evaluate a design defect in the context of the "whole product" — for example, should a better than average steering mechanism and suspension system be considered in deciding liability for a defective drivetrain in a car? Yet, if a producer claims that his product is "better than average," failure of any single component means little in terms of the overall quality claim. More importantly, if explicit claims are not made for the product or particular component, liability must be assigned on the basis of an implicit claim. This raises essentially all the issues connected with designing a minimum quality liability standard.

More generally, moving from a minimum care liability approach to one tied to the producer's explicit or implicit claims is essentially a move to legally enforceable implicit contracts with all the problems discussed in the previous section. Because of the difficulty in effectively aggregating most consumer claims and because of the cost of litigating the issues involved, it seems doubtful that a large level of activity could be economically justified under either approach. However, there is no evidence to support this (or any other) position on the merits of product liability laws, and there appears to be a growing volume of product liability litigation in the U.S.

(b) Policies Towards Deception and Fraud

An alternative policy approach to quality problems is to focus directly on the lack of credibility of sellers' claims that leads to the quality problems. Laws against deception and fraud do this by making it more costly for producers to communicate false information (because of the risk of prosecution), and therefore, presumably these laws increase the truthfulness and credibility of claims that are made. Thus, the laws might be viewed as providing sellers with a more credible communications channel to consumers. At a basic theoretical level, the issues here are relatively straightforward, and there is general support for some policy against deception and fraud.³⁹

Nevertheless, deception law has become a controversial area of consumer protection activity. Most of the recent debate has focused on the FTC's policies towards deceptive advertising: a number of bills have been introduced in Congress that would change the statutory standards applied to deceptive advertising,⁴⁰ and there has been sharp disagreement both inside and outside the Com-

³⁹ See, for instance, Darby and Karni (1973), Posner (1979), Pitofsky (1979) and Grady (1981).

⁴⁰ *Hearings on the FTC's Authority Over Deceptive Advertising*, Senate Commerce Committee, (footnote cont'd)

mission about which changes, if any, should be made.⁴¹ Currently the review courts require only a showing that an advertisement has the "tendency or capacity to deceive" to be in violation of the FTC Act;⁴² for instance, there is no legal requirement to show either actual deception or consumer injury from the deception. Moreover, in understanding the current policy debate, it is important to note that most advertising cases involve implicit rather than explicit claims in the ads; in fact, the primary dispute in a deceptive advertising case is usually about whether the questionable claim was actually made by the advertiser.⁴³

At the heart of this policy debate are some fundamental issues. Those resisting the move towards a more stringent deception standard consider a strong deception law essential to restrain what they see as firms' powerful incentives to deceive consumers. A broad mandate to control deception, subject only to limiting exceptions worked out through the judicial process of precedent and appeal,⁴⁴ seems to them to put the burden of law where it should be — on the firms who can control deception. Even when they agree that current policy does not (and should not) take advantage of the full rein of the law, they oppose efforts to narrow the legal mandate, preferring to rely on prosecutorial discretion and voting requirements at the Commission to control excesses.⁴⁵

In contrast, critics of the Commission's past deceptive advertising activity generally point to the large number of cases generated under this legal arrange-

97th Cong., 2d Sess., Ser. No. 97-134 (1982). The enabling legislation for deceptive advertising cases is again Section 5 of the FTC Act, which states that "... unfair or deceptive acts or practices in commerce are hereby declared illegal." See Beales, Craswell and Salop (1981) for a more thorough background discussion of deceptive advertising policy; also Craswell (1984).

⁴¹ See, for instance, the FTC majority's "Policy Statement on Deceptive Advertising," reprinted at 45 *BNA Antitrust and Trade Reg. Rep.* 689 (Oct. 27, 1983) and the dissenting FTC minority view in "Analysis of the Law of Deception By Commissioners Patricia P. Bailey and Michael Pertschuk," reprinted at 46 *BNA Antitrust and Trade Reg. Rep.*, 372 (March 1, 1984). See also "Dingell Assails FTC Chief on Deceptive Ad Issue," *New York Times*, Oct. 27, 1983, p. 16. For a review of the recent debate, see Ford and Calfee (1984).

⁴² Though most of the debate has focused on the FTC law, some of the same issues are raised by private deceptive advertising suits brought under Section 43(a) of the Lanham Act (15 U.S.C. 1125(a) 1976). For a discussion of private remedies, see, for instance, Thomas J. Donegan, Jr., "Deceptive Advertising May Be Remedied By Courts," *Legal Times of Washington*, September 7, 1981, p. 14.

⁴³ It might be tempting to argue that deception policy should be limited to explicit claims because of the inherent difficulty of judging implied claims. However, this restriction is a very strong one legally. For instance, consider an advertisement like: "You have all heard a lot of talk recently about the importance of a high fiber, high nutrition diet. To get the most out of life, eat a well rounded diet. Next time you visit your favorite grocery store, look for our new Gran-O brand cereal." Even if "Gran-O" contains no fiber and is less nutritious than every other cereal on the market, there are no false explicit claims in this ad; it is an implicit claim that "Gran-O" is a nutritious cereal.

⁴⁴ For instance, there are legal precedents that protect non-factual exaggerations or opinions ("puffery") from scrutiny under deception law. See, for instance, the FTC's *Consumer Information Remedies Policy Review Session* (1979) for a discussion of these issues.

⁴⁵ See, for instance, the testimony of Commissioners David Clanton, Patricia Bailey and Michael Pertschuk at the Senate Commerce Committee Hearings (1982) as cited above.

ment where consumer benefits seem quite implausible.⁴⁶ While earlier critics argued for more reasoned case selection at the Commission, some current critics favor an explicit narrowing of the FTC's legal authority by including more economically-based criteria in the deception standard itself.⁴⁷ In addition to reducing the number of questionable cases actually brought, this increased and more explicit evidentiary burden for the Commission⁴⁸ is seen as necessary to correct the undesirable damping of truthful advertising claims created by the breadth and uncertainty of the current legal standard. After an unsuccessful effort to narrow the FTC's deception authority in the legislature, in 1983 the Commission (by a 3 to 2 vote) issued a policy statement on deception that incorporated some of these more explicit criteria.⁴⁹

Compared to those favoring the *status quo*, critics of the current legal standard generally share a more confident view of the market's ability to control most deceptive advertising. In keeping with the recent economic literature's analyses of bonds, signals, reputations and competitive information incentives, they see much less opportunity for firms to engage in profitable deceptive advertising. They do not share the fear that a narrowing of the Commission's authority will unleash strong incentives for firms to deceive the consuming public. Moreover, they have a much more sanguine view of consumers' ability to effectively identify and react to many types of deception that the FTC has pursued in the past.

Thus, the fundamental issues in the deception policy debate are the unanswered empirical questions currently dominating the entire product quality information area. There is little systematic empirical evidence that confirms the market's ability to police deceptive claims in the circumstances predicted by theory. On the other hand, the questionable nature of many past Commission cases may indicate that little significant deception occurs. Further, there is no evidence with which to judge the deterrent effects of current advertising policy or to judge the likely increase in deception claims if the standards are relaxed. More subtly, the relationship of policy to the formation of consumer beliefs is not well understood; for instance, if deception that caused only limited injury

⁴⁶ Commonly cited examples are past FTC interpretations that consumers are deceived by celebrity endorsements if there is no disclosure that the celebrities are paid for their efforts, that consumers interpret claims of savings "up to" a specified amount to indicate the average savings for consumers, and that advertisements that report the opinions of reputable publications are deceptive unless the manufacturer has independent tests confirming those opinions.

⁴⁷ See, for instance, Posner (1973), Jordan and Rubin (1979), Grady (1981), Craswell (1984), Ford and Calfee (1984), testimony by Commissioners Miller, Douglas and Clanton before the Senate Commerce Committee (1982) as cited above.

⁴⁸ Judges have consistently given the Commission the broadest latitude in judging the deceptiveness of advertising claims. Findings of deception by the Commission are rarely overturned.

⁴⁹ For instance, the former Bureau Director for Consumer Protection Timothy Muris proposed a legal standard of deception that would find an act or practice deceptive "if it would mislead consumers, acting reasonably in the circumstances, to their detriment." See "Memorandum ... on Definition of Deceptive Advertising" at 699 *BNA Antitrust and Trade Regulation Report* 42 (Sept. 25, 1982).

was allowed to persist unchallenged by policy, would the credibility of more significant advertising claims suffer?

Finally, an issue that is not at the forefront of the current policy debate, but is growing in significance, is the policy distinction between affirmative deception (that is, when explicit or implicit claims are made which are false) and deception by omission (as when a negative feature of a product is not disclosed). The trend in Commission activity in recent years has been towards increased scrutiny of deception by omission issues,⁵⁰ and — in what comes very close to omission cases — broader interpretation of implied claims in ads. This movement in the law deviates substantially from the more neutral view of deception law as an institution designed to provide sellers with a credible communications channel to consumers. Instead, this shifts deception law towards the more active role of forcing information into a market that would (presumably) produce too little on its own. This issue deserves closer examination on economic grounds. In particular, such a trend appears to require acceptance of the proposition that even when producers can make (only) credible claims, market incentives are not sufficient to induce producers of better products to distinguish themselves from lower quality producers.⁵¹ The usual situation offered as problematic in this regard is one in which the whole product class has a hidden risk or flaw (e.g., the health risks of cigarettes in the 1950s). However, even here there seem to be substantial profit opportunities for firms who offer higher quality products.⁵²

(c) *Direct Government Regulation: Mandatory Information and Minimum Quality Standards*

Among the policy options for dealing with product quality problems are the more direct regulatory approaches: government-mandated quality disclosures and minimum quality requirements for the products themselves. Mandated quality disclosures address the underlying information deficiency by legally requiring firms to reveal the hidden quality dimension. In contrast, minimum quality standards focus on the equilibrium quality itself. Theoretically, these standards either raise the single quality level offered in a "lemons" equilibrium, or, under some market conditions where producers have different cost functions, raise the

⁵⁰ In a significant departure from this trend, in December 1984 the Commission overturned an administrative law judge's finding of deception against International Harvester (FTC Docket No. 9147) for failing to disclose a safety hazard. In a 3 to 1 decision, the Commission ruled that deception required some form of false affirmative representation, which may be either expressly stated or implied by the general circumstances surrounding the sale. International Harvester was found guilty under the FTC's unfairness authority.

⁵¹ See Grossman (1981), for instance, for a model of how this quality unfolding can lead to full disclosure.

⁵² In the cigarette case, advertising in the 1950s had begun to address the relative health benefits of different brands before the FTC issued "guidelines" that made it exceedingly difficult for a seller to advertise relative health benefits.

average quality in the market by directly limiting low quality products, and by attracting higher quality products because of the resulting increase in the equilibrium price.⁵³

There are, of course, a host of practical problems in deciding on a measure of quality and in selecting an appropriate minimum quality standard when these approaches are adopted.⁵⁴ More fundamentally, however, there is currently only very limited discussion in the literature of economic rationales or evidence to support the choice of these direct regulatory approaches over the more market-based approach inherent in the fraud and deception laws. For instance, in requiring a disclosure of quality, there is an implicit rejection of the market's efficiency in inducing this information from the higher quality firms. Yet if the deception laws prevent false claims and if there is a credible measure of quality available, firms willing to provide higher quality should be able to effectively convey their quality to consumers and to profit in doing so.⁵⁵

Casual empirical evidence gives some support to the market's effectiveness in such circumstances. Margarine sellers appear to have been quite successful in communicating their superiority to butter on the cholesterol issue. Low tar and nicotine cigarette sellers have been vigorous in distinguishing themselves from the higher tar brands (going far beyond the mandated disclosures in advertisements). High mileage automobiles often feature this fact in their advertisements. Lower calorie foods (especially in the diet soda and frozen food categories) have been very successful in conveying their superiority to higher calorie counterparts. The same is true for high fiber foods. In this type of case, the (admittedly casual) empirical evidence seems to bear out the theoretical work which suggests that there is no need for the government to mandate the disclosures.⁵⁶

The availability of a clear and credible index of quality is an important component of the market's provision of information. Without a credible measure of quality, it is more difficult for firms to make quality claims⁵⁷ and for deception

⁵³ See Akerlof (1970) for the classic "lemons" model and Leland (1980) for the quality distribution case.

⁵⁴ See Beales, Craswell and Salop (1981) for a thoughtful discussion of many of these issues.

⁵⁵ See Grossman (1981). Here I am assuming that a measure of quality is available to the firms. The incentives to develop such a standard, where it is not available, are more questionable.

⁵⁶ It is tempting to argue that there is also little cost to such a mandate and that the potential for improved information in the market may make such an approach worthwhile. While this argument appears plausible for a single quality dimension, the problems of information congestion and overload limit its applicability. The choice of which dimensions to disclose, how aggressively that information should be spread, and how the dynamics of the market should be incorporated are not currently accommodated by government regulatory mechanisms.

⁵⁷ An example here might be the crashworthiness of automobiles. Crashworthiness is a complex quality that is very difficult to summarize in a simple measure. It is thus difficult for individual firms to convincingly advertise their superiority along this dimension. General Motors has recently experimented with advertisements for some of their models based on auto insurance statistics for fatal accidents, but these numbers are colored by driver selectivity factors. Other firms resort to

(footnote cont'd)

law to discipline misleading claims. However, the public good nature of such standards makes it less likely that firms will individually develop and promote quality standards in cases where there are significant costs to doing this. Private industry groups appear to overcome this problem to some extent, but we know very little about the economics of these standards setting groups. Some government support for the development of quality indices, where feasible, thus may be a more economically justified area of activity.

Of course, even with clear measures of quality, there might be a problem initially if consumers are not broadly educated on the quality issue; the health hazards of sodium or cholesterol consumption might be recent examples of this.⁵⁸ Firms in such a case might be reluctant to initiate a promotion campaign until consumers are aware of the basic issue; other firms could free ride on the initial, costly education process. This problem might justify a government-sponsored education campaign or some type of limited duration disclosure program, but usually not on-going mandatory quality labeling.⁵⁹ Other more limited approaches may suffice, however; the recent Kellogg's advertising campaign on its high fiber cereals is an example where a company simply used government-sponsored studies and findings to make its point in what appears to be a successful advertising campaign.

In setting minimum quality standards, policy goes further, either rejecting consumers' ability to understand the information if it were given, or judging the costs of information disclosure to exceed the inefficiencies usually inherent in a minimum quality standard.⁶⁰ Minimum quality standards are more appropriate policy choices in cases where quality is particularly difficult to convey to consumers and where there would be little (informed) demand for the level of quality below the minimum standard. This, of course, presumes that liability rules and market devices like reputations and bonds are less efficient in delivering the requisite quality.

In regulatory matters, there has been some movement away from the use of minimum quality standards in favor of information remedies. This is certainly

advertisements describing structural factors and engineering features that presumably improve crashworthiness. The National Highway Traffic Safety Commission has created an index for front-end crashes, but this index is often criticized as being very sensitive to precise test specifications. The overall difficulty in measuring this quality does appear to limit effective competition along this dimension.

⁵⁸ In the case of cigarette smoking, for instance, there is clear direct and indirect evidence that it took years for many consumers to understand the risks of smoking. See Ippolito and Ippolito (1984).

⁵⁹ Contrary to the theory, most cases where the government has actually mandated disclosures have been situations in which clear indices of quality already existed (sometimes developed by the government). EPA mileage ratings, octane rating for gasoline, R-ratings for insulation, tar and nicotine content for cigarettes are all examples. The exceptions have been the general warnings and contraindication information mandated in cases like cigarettes, saccharin and drugs.

⁶⁰ Optimal consumer reactions to newly discovered hazards can be quite varied depending on the nature of the risk (Ippolito (1981)). It is quite possible for these reactions to differ substantially from policymakers' views of appropriate reactions to risk information. There are also paternalistic rationales offered for minimum quality standards: I am restricting my attention to efficiency criteria.

of minimum quality standards in favor of information remedies. This is certainly the case in consumer protection activities involving product quality at the FTC. However, minimum quality standards are still the dominant approach in many areas of regulation; for example, they are common in the labor area (e.g., OSHA standards, minimum wage laws, and much of the ERISA pension regulation), in food and drug issues (e.g., the FDA's minimum ingredient requirements for foods as well as the FDA's drug certification program), in the regulation of professionals (e.g., minimum training requirements), and in automobile safety and fuel economy matters (e.g., NHTSA's mandatory passive restraints rulemaking and EPA's maximum fleet mileage rules for auto manufacturers).

A few of these cases (drugs, for example) may meet economic criteria supporting a minimum quality approach to an information problem,⁶¹ but many would appear to reflect forces having little to do with efficiency. Moreover, even in cases where there are plausible economic arguments for minimum quality regulations, the results are often disappointing. Regulation of professional services, for instance, has generally been characterized by minimum requirement regulations on both credentials and on providers' actions, and there may be a theoretical basis for such an approach. Yet many of these strictures have come under strong criticism from economists in recent years.⁶² While the focus of this criticism has been the removal or relaxation of the particular standards under study, the broader implications of this body of work may be to reveal the greater susceptibility of minimum quality standards to capture by the regulated industry. The political economy of information remedies has not been explored by the literature to date, and in many cases, this issue may be the most important factor in dictating more efficient outcomes when government regulation is adopted.

III. Overview of the Conference Papers

The volume is organized into four sections that parallel the conference sessions: *Quality Issues*, *Advertising Issues*, *Experimental Studies*, and *Econometric Studies*. The first section begins with the opening remarks of James C. Miller III, Chairman of the Federal Trade Commission, who highlights the Commission's need for more evidence, including more empirical evidence on the magnitude of actual information problems and on the effects of alternative regulatory policies. The two papers in this section are econometric studies of particular markets where information problems are often suspected to occur.

John C. Weicher uses an FTC/HUD-sponsored survey of new home purchasers to investigate whether quality problems in new homes are reflected in house prices. This data set is particularly well-suited to this question since a subsample of the data was verified by professional home inspectors to check for any owner response bias in reporting quality problems. Using both deter-

⁶¹ Though even here the level of the standards has been questioned by many. See Peltzman (1973), for example.

⁶² See, for instance, Benham and Benham (1975), Bond et al. (1980), Cady (1976) and FTC (1984).

ministic and stochastic hedonic techniques, the study supports the view that, in the new house market, price does reflect quality, and thus that any information problems must be generally corrected by market mechanisms of some type. Possible mechanisms include builder reputation and the scrutiny of banking intermediaries.

James E. Anderson and Frank M. Gollop study the effects of state warranty laws on the used car market. The study uses an extensive transaction-specific data base that includes prices for more than 120,000 retail sales in 1983 collected by the National Automobile Dealers Association. While the study does not address the ultimate consumer welfare questions behind the laws, it does find that stronger warranty laws increase the price of used cars; preliminary estimates from the study indicate that the major warranty laws add about \$200 to the price of the average used car. An additional feature of the study that may be of use to other researchers is its collection of a substantial amount of information about state warranty laws, published as an appendix to the study.

The second section, on *Advertising Issues*, consists of four papers on advertising. The first by Yehuda Kotowitz and Frank Mathewson attempts to formulate testable implications of the Nelson, signalling and persuasive theories of advertising. Using published data from the automobile market of the 1960s and from the Canadian whole life insurance market of the 1960s and 1970s, the authors find that the evidence does not support a pure signalling theory but is consistent with a persuasive theory of advertising. The authors then develop a model of consumer learning where the content of the ads is at issue and show that exaggeration can occur at least during the period when consumers are learning about the quality of the good.

The paper by Timothy Bresnahan looks at advertising as a part of the broader distribution system in which selling services can be provided in a number of ways. Specifically Bresnahan formulates the hypothesis that mass media advertising (whether informative or persuasive) is a substitute for high-service retailing and that the growth of mass media advertising over time reflects relative price changes in these two approaches to distribution. Using cross-industry data and firm-level data from the brewing industry, the study confirms this hypothesis with a slight modification: nationwide media (magazines and network TV) are substitutes for high-service retailing, but local media (spot TV, newspapers and radio) are not. The study also finds that changes in the relative price of (national) mass media advertising and high-service retailing have created economies of scale in distribution, leading to the increased growth of national brands.

The last two papers in this session attempt to examine the effects of the FTC's advertising substantiation program initiated in the early 1970s. Richard Higgins and Fred McChesney consider a political economy explanation for the change in policy, arguing that support for the program derives from large advertisers' ability to gain at the expense of their smaller competitors. They provide preliminary tests of this theory with analysis of stock market data for large advertisers and with an analysis of the incidence of FTC substantiation cases. In both

tests, they find support for their view.

Keith Leffler and Raymond Sauer attempt to examine the effects of the advertising substantiation program on advertising agencies. Their preliminary research reported in this paper finds that substantiation was largely a program of the mid-1970s. Beyond a small positive effect on mid-sized agencies, they find little structural effect of the program. In particular, they find no evidence to support the Higgins-McChesney view of a large firm advantage. An analysis of account retention by agencies who face a substantiation complaint also fails to find any significant effect of the program.

The third section, entitled *Experimental Studies*, includes three studies that use experimental techniques to examine problems in markets with imperfect information. The first paper by Charles Holt and Roger Sherman investigates the use of bundling to mitigate the effects of quality uncertainty. In a model in which individual items of a good have exogenously determined quality, bundling by the seller is shown to be an efficient response under certain market conditions. Experiments under two sets of assumptions show a tendency for both buyers and sellers to prefer bundled goods in cases where this is efficient.

The study by Michael Lynch, Ross Miller, Charles Plott and Russell Porter examines experimental markets where buyers are uninformed about quality, but sellers are not. The study shows that "lemons" equilibria are easily produced in this experimental setting. A variety of mechanisms to resolve the quality degeneration are also examined. Among the major results are: truthful, voluntary disclosure and enforced warranties both lead to full information equilibria; identification of the seller (to allow for one type of reputation) improved market performance but not to full information levels — perhaps because of two externalities: first, "cheating" in the market with seller identification tended to taint other sellers in addition to the seller who actually cheated, and second, sellers seemed to be able to "free ride" on high quality markets developed by pioneers.

Thomas Palfrey and Thomas Romer study a market with uncertain quality in which disputes over warranty obligations can arise. In this setting, the rules of a dispute resolution mechanism can change the equilibrium outcome in the product market itself. Using such an experimental market, Palfrey and Romer report evidence that the allocation of the cost of the mechanism affects the market price through effects on both the buyer and the seller. Despite the relatively complex nature of this experimental market, the "rational" Bayesian equilibrium model predicts prices very well when compared to a model with more myopic or limited consumer understanding.

The final section of the volume, *Econometric Studies*, contains three empirical studies that deal with policy or behavior in markets with potential information problems. Gregg Jarrell and Sam Peltzman examine the effects of product recalls on the stock market value of firms and their competitors. This provocative study finds that for both drug and auto recalls, the reduction in stock value is surprisingly large compared to plausible estimates of the observable direct and indirect costs to the firm. For drug recalls, for instance, the mean cumulative excess

return (two week interval) is -6.13%. The study also finds evidence of negative spillovers of recalls to other firms in the industry. Reputational damage from the recall seems an unlikely explanation for this large stock market reaction: evidence from the study suggests that the probability of future recalls is not affected by a past recall, and where it could be tested in autos, that the reduction in sales is too small and too temporary to be consistent with large reputational damage. It is unclear whether this implies that there is some other hidden cost to recalls, some basic problem with the "event study" methodology, or problems with the efficient market hypothesis.

The study of the retail coffee market by Michael Katz and Carl Shapiro examines a variety of ways in which consumers and firms respond to costly information, including the firms' use of coupons, in-store promotions, price ads in local print media, non-price ads on spot and network TV and trial sizes, and consumers' responses to these promotional techniques. Such a detailed study was feasible, in large part, because the authors had access to cross-section, time series data on individuals' coffee purchases collected from grocery stores with electronic scanners. The study finds that price ads, which reduce the cost of acquiring information, increase the consumers' response to both price increases and decreases; that the evidence on coupon usage is consistent with both price cutting that limits stockpiling by regular customers and price discrimination; and that in-store displays are taken as a signal of price cuts by consumers, but that this signal is only weakly accurate. Overall, the evidence here demonstrates that in markets where consumer shopping and dealer promotion are important, aggregate demand estimates that do not account for key non-price variables may be seriously misspecified. Moreover, this study illustrates a case where information about price is a more significant and difficult issue than information about quality.

The final paper by Robert Porter is an econometric study of the cigarette market from 1947 to 1982 based on aggregate time series data. The study examines the effects of the health information shocks and related government policies on the cigarette market. Unlike previous studies that focused exclusively on demand reactions, Porter attempts to determine the effects of the information on manufacturers' decisions by estimating a simultaneous equations model for the market during this period. Overall, he finds that advertising and pricing decisions were probably not materially affected by the policies; the exception might be the effects of the FCC advertising ban, which is estimated to have reduced advertising's effectiveness and thus to have increased prices by 3-6%.

IV. Conclusion

As illustrated by the wide range of issues covered in this review and by the conference papers themselves, consumer protection regulation raises a great many economic questions for which we currently have only limited answers. The theoretical developments in the economics of information area and the

emerging micro data sets of purchasing behavior (generated by electronic scanners, for instance) present opportunities for a broad agenda of research. To those interested in policy, the most pressing research topics are a better theoretic and empirical understanding of the market's ability to resolve information problems, and more insight into the actual consequences of regulation in this area. In sponsoring this conference, the FTC hoped to interest other economic researchers in the problems at the core of consumer protection policy and to stimulate them to conduct further research, especially empirical and factual research, on the results of current regulatory policies.

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