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*/ Federal Trade Commission. The views expressed here are the authors' and do not necessarily reflect those of the Commission, individual Commissioners, or other staff. This is a brief report on ongoing research at FTC and elsewhere, and thus reflects the contributions of many of our colleagues. We acknowledge especially those who shared responsibility for the FTC's Consumer Information Remedies (1979) and Post-Purchase Remedies (1980) reports, which examine these issues in more detail. References are cited in those volumes.



Consumer protection regulation has come under increasing fire from the Congress, courts, and the business community. Regulations have been criticized as costly, economically irrational, rigid and paternalistic. In response, regulators have begun to innovate with market interventions that are more compatible with consumer and seller incentives. These incentive compatible techniques include establishing property rights, mandating performance standards (instead of design standards), increasing competition, and encouraging and mandating information disclosure.

Information disclosure allows consumer self-protection, compatible with individual preferences. Information is also compatible with sellers' incentives, inducing them to compete on the basis of information disclosed. In addition, this competition increases the incentive to generate and disseminate additional product information, thereby repeating the cycle. In this way, information remedies rely on private economic incentives to achieve regulatory goals, rather than on expensive direct enforcement by the regulator.

Diagnosis of an information problem and evaluation of alternative remedies requires a number of steps: analysis of information production and distribution, identification of market failures and their implications for resource allocation in the information and product markets, and analysis of alternative remedies in light of these market failures.

I. Information Markets and Market Failures

The information market is diverse. Consumers produce prepurchase information themselves from direct inspection of commodity attributes.

These attributes are desired for both their value in consumption and for their utility as signals of other valued attributes. Information recalled from memory and learned from experience is also useful, and essential for constructing signals. Experience may also be used to define conditions of contingency payments after further information is learned, as with warranties or trial periods. Consumers purchase information and certifications from a variety of intermediaries like newspapers, termite inspectors, and other consultants. Consumers are given information by interested sellers, who substantiate it themselves or purchase it from certifiers like Underwriters Laboratory (UL) and Good Housekeeping.

The richness and competitiveness of information markets might suggest that it is not efficient to mandate dissemination of currently undisclosed information. However, market failures often prevent an efficient quantity and quality of product information from being provided. First, purchases by informed consumers generate a market-perfecting external benefit to uninformed consumers. Additional information induces sellers to compete for the patronage of informed consumers by offering better values, either lower prices or higher qualities. This induced competition also benefits those uninformed consumers who purchase randomly. Although perfect markets do not require all consumers to be perfectly informed, this externality implies that too little product information will generally be produced, even in a well functioning information market.

In addition, there are other reasons to expect information markets to function imperfectly. First, information generation and dissemination has both natural monopoly problems (once generated, information can be disseminated at low marginal cost) and free rider problems (buyers can resell purchased information to others). Second, if firms have market power in the product market (perhaps due to imperfect consumer information), they may have an incentive to act as "noisy monopolists" by exploiting or even creating uncertainty or false consumer information. Competitors may not have a sufficient incentive to counter this strategy.

Finally, consumers do not always protect themselves by gathering and rationally evaluating sufficient product information. Consumers often underestimate the economic value of additional information, from either psychological factors or the simple absence of the crucial data that implies the need to learn more. Moreover, many consumer skills are imperfect; consumers make false deductions and inferences, they are often poor negotiators, and they sometimes purchase to obtain a salesman's approval instead of satisfying their own commodity preferences. In consumer protection law, these issues are studied under the headings of vulnerable consumers, unequal bargaining power and undue seller influence.

II. Implied Product Market Failures

These information problems create imperfections in product markets and induce a variety of transactions costs and institutions

designed to economize on them. First, if consumers are imperfectly informed, even small sellers can achieve a degree of informational market power over price, leading to monopolistic rather than perfect competition. For example, because the bereaved cannot easily shop among funeral homes, the industry is fragmented (each seller averages only 100 funerals per year) and prices are high. Spurious product differentiation and reputation premiums may raise prices for some or all functionally equivalent brands. Finally, adverse selection and moral hazard can destroy markets altogether or lead to a low price-low quality "lemons" equilibrium. This may be a particular problem in the warranty market, where imperfect information, coupled with adverse selection and moral hazard, leads to imperfect risk-sharing and risk-prevention.

Finally, from a more general equilibrium view, the marketplace responds by channeling competition towards more easily observable product attributes and signals of unobservable product characteristics. If price is more easily observed than quality, competition will be skewed towards less expensive, lower quality items, or vice versa. If experience suggests that a used car's exterior condition is a good signal for its mechanical conditions, "cleaner" cars will sell at a premium. As a result, sellers will be induced to over-invest in exterior condition to exploit the signal, possibly even destroying its predictive value in the process.

III. Information Remedies:

Given a market failure, a number of alternative market intervention strategies may be designed. Remedies may function to improve the flow of useful, truthful information and thus eliminate the cause of the problem, or they may act to offset or eliminate the effects of the problems on the relevant product and information markets. In general, information strategies are preferable. They tend to be more compatible with incentives, less rigid, and do not require regulators to compromise diverse consumer preference to a single standard.

Compatibility with sellers' incentives increases the likelihood that the market will make use of the information. This is essential since the major benefits of an information program come from the market's indirect response. As firms compete for informed consumers, products are likely to be improved along the dimension disclosed. Other purchasers also benefit even if they do not use the information directly. On the other hand, if the information program is not compatible with sellers' incentives, if it is not a useful sales tool, then the market is less likely to respond. The need for effective communication is perhaps obvious, but its subtleties are often overlooked in practice. Uncomprehended information cannot be acted upon and can produce no benefits.

It is also important to emphasize at the outset that information is inherently incomplete. Every statement can benefit from further elaboration or qualification. Thus, all information necessarily

has the tendency or capacity to deceive. As such, every informational market failure cannot be efficiently cured. Government intervention must be limited to those that entail significant consumer injury and can be remedied without creating economic distortions or other significant adverse side effects.

A. Removing Information Restraints:

Private and governmental restrictions often tend to inhibit competition, with consequent efficiency losses. For example, restrictions on advertising of professional services have raised the prices of such services. Restrictions are sometimes imposed by information producers. A diagnostician who refuses to make available diagnostic information may compel the consumer to purchase necessary treatments from him. Providing consumer access to such information enhances competition in the provision of treatments. Similarly, restrictions have been imposed by Consumer Reports to prevent retailers and manufacturers from using its ratings. Trademarks that have taken on generic meanings may also restrain the flow of information; as such, trademark dedication represents one remedial approach.

B. Ensuring Truthful Information: The FTC prohibits false claims and requires that firms have substantiation for advertised claims. While false information has negative economic value, prohibiting it may also have indirect costs as the market responds to economic

incentives. Substantiation regulates only objective claims. Because it is costly to develop substantiation, firms may simply avoid objective claims to escape the costs. Thus, if firms can shift to equally effective, non-verifiable, subjective claims, truthful factual claims will be deterred.

C. Ensuring Complete Information: All information is inherently incomplete; nevertheless, it is clearly possible to mislead by providing half-truths. Two types of incomplete information may be distinguished. Virtually all claims are incomplete in that they do not describe the other options available in the marketplace. For example, a firm may claim that its margarine has no cholesterol, without revealing that no margarine contains cholesterol. This kind of incomplete information is relatively innocuous; indeed, it converts a public good into a private one, and thereby gives firms an incentive to provide the information. On the other hand by omitting information about significant attributes, firms may lead consumers to overestimate the value of a particular brand. Two common solutions to incomplete information are establishing a metric and requiring disclosure.

1. Establishing Metrics: A metric is a system for measuring the quantity of one or more product attributes across brands. The metric may be dichotomous, as with a definition (e.g., "Walnut" means solid walnut, as opposed to veneer), or it may be continuous.

Metrics reduce the cost of communicating by providing a uniform, easily comprehensible measurement. Thus, competing brands are more easily compared. The direct costs of imposing a metric include the one time cost of establishing the index and the ongoing cost of testing the products to determine their scores. Testing costs are likely to increase with measurement precision. Metrics may create a number of adverse side effects as well.

Most metrics measure only a few product attributes. By easing communication about these attributes, the metric may increase the market's emphasis on them, at the expense of others. Particularly where unmeasured attributes are related to the measured one, either through production technology or preferences, increased emphasis on a newly observable attribute may lead to inefficient reductions in other attributes. The metric may become a signal for other unmeasured attributes. If the signal is imperfect, consumers may be misled if they rely solely on it.

Moreover, sellers have an incentive to exploit the signal whenever possible. As a result, a signal which was initially appropriate may become inappropriate once sellers respond. For example, the standard metric for nutrient composition of foods is the recommended dietary allowance (RDA). Because the role of many nutrients is incompletely understood and testing is expensive, some nutrients have no RDA. Instead, it was assumed that by obtaining the RDA of major nutrients from natural sources, sufficient amounts of trace elements would also be obtained. However, because manufacturers responded by fortifying natural products with synthetic vitamins, the

assumed relationship between major and trace nutrients may no longer hold.

One solution to this problem is to measure more attributes. However, there is inevitably a tradeoff between the extensiveness of the measurements and their comprehensibility to consumers. Comprehensibility can sometimes be preserved by combining measures of different attributes into an overall summary index measure and perhaps collapsing the index into several discrete classes. An efficient index weights attributes in accordance with both consumer utilities and the precision of measurement. The usual problems of index numbers are always present when consumer preferences differ. Although an index may be quite useful, it will inevitably mislead some consumers. In addition, strategic responses by producers may reduce the value of the index as discussed earlier. Collapsing an index into discrete classes may remove any incentive for marginal product improvements. Once a product qualifies for the "best" class, there is no incentive for further improvements, if only the rating is observable.

Imposition of a single common metric necessarily requires the exclusion of others. In some circumstances, it may be sufficient merely to establish the metric, leaving firms to choose whether or not to use it. Advantaged firms will voluntarily choose to disclose the metric, if it is an effective communication device. However, if the benefits of the metric depend on having the value for all products readily available, and if it is quite costly for each firm to test all products, it may be appropriate for the government to test or

require that each firm test its own product and publish the results.

2. Required Disclosure: Disclosures may be triggered whenever a particular claim is made (e.g., a claim about gas mileage triggers a requirement to disclose the EPA mileage estimate), or they may be across the board (e.g., all cigarette ads must include a health warning). The need for disclosure requirements depends on the completeness of the total information environment and sellers' incentives to disclose voluntarily. If information is readily available from another source or if firms disclose whenever disclosure is useful, then required disclosure is unnecessary. Requirements may sometimes be appropriate when a new metric is introduced to speed consumers' understanding of the new concept (e.g. R-value). Such disclosures can often be terminated in a relatively short time; once enough consumers learn the concept, firms will have a greater incentive to use it voluntarily.

In contrast to a metric, a disclosure requirement tends to increase the cost of communication. Disclosures come at the expense of other advertising messages and represents a tax on advertising which is collected in kind. The tax is often quite substantial; the average cost of a prime time, 30 second network TV spot was \$54,000 for the first half of 1979, implying an average cost of \$18000 per second. Since a typical broadcast disclosure consumes four or five seconds, the effect on the flow of information may be substantial.

Triggered disclosures change the relative costs of different claims. If alternative claims are good substitutes as selling tools, the frequency of claims which trigger the disclosure may be substantially reduced. This may be inefficient if the claim is useful, even absent the

qualifying disclosure. Clearly, the actual magnitude of shifts in claims in response to disclosure requirements is an empirical question, and one which deserves further study.

In contrast, when a disclosure applies to all advertising, substitution of claims is impossible. In this case, the general increase in the cost of advertising message may reduce the total amount of advertising.

Effective communication is essential for disclosures. For new information, consumers are likely to need a frame of reference to tell them how different products vary, and why the information is significant. The message must be consonant with the information processing capabilities of the target audience, and must consider the limitations of the medium in which it will be placed. As an alternative to actually writing the disclosure, a performance standard specifies a level of consumer awareness to be achieved. With performance standards, firms have an incentive to design the most cost-effective disclosure, thus relieving the government of the task of writing effective advertising copy.

3. Prohibiting Information: Triggered disclosures may be so extensive as to amount to a virtual prohibition of the triggering claim. Such information prohibition tend to redirect competition in permissible directions, as illustrated by professional advertising bans. Similarly, product differentiation competition may be reduced by a prohibition on certain types of product claims, though consumer preferences may be compromised by such a policy.

IV. Alternatives to Information Remedies

When information problems create problems in product markets, information remedies are most likely to be the most effective solution. They deal with the cause of the problem, rather than its symptoms, and leave the market maximum flexibility. However, policy-makers often consider remedies that act on the effect, rather than the cause, of imperfect information, such as altering contract terms or regulating products and prices.

A. Altering Contractual Terms: The precise effects of this class of remedies depend on the particular clauses involved. The regulator may require or prohibit contractual clauses. A mandated full warranty eliminates an information problem by eliminating the need for information, since liability for product failures is shifted to the firm. A mandated cooling-off or trial period allows additional information to be gathered after purchase, but before a final commitment is made.

On the other hand given risk-aversion, moral hazard and adverse selection, such constraints may preclude the parties from reaching an efficient contract. This is a particular problem, when the contractual clause itself acts as an information revealing, self-selection device. For example, consumers who knowingly accept "unconscionable" penalty clauses in credit contracts effectively signal their firm intention to avoid default. Yet, clauses that void the remainder of the contract or are otherwise worthless to an informed purchaser seem ripe for prohibition. For example, the "Baldwin Piano" clause required that the product be returned to the factory at the consumer's expense to obtain warranty service.

B. Regulating Products: This remedy eliminates the need for information by making all products identical. If there are no choices, then there is little need for information about the options. If a specific informational deficiency leads to a particular product problem, it may be possible to correct the problem directly. Similarly, if all consumers, given full information, would make the same decision, imposing that decision on the market may be more efficient than forcing all consumers to bear the costs of gathering and processing the information. Of course, if consumers preferences differ over the relevant attribute, a serious tradeoff must be balanced.

C. Regulating Prices: This may be a solution to inadequate price information. By imposing uniform prices, the need to search for the lowest price is eliminated. If costs differ across firms, however, this solution will also be inefficient. Price regulations may also encourage the flow of information by shifting competition from price to information services.

