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Used Vehicles, Lemons Markets, and Used Car Rules: Some Empirical Evidence

ABSTRACT. The purpose of the note is to highlight what the body of economic literature has to say about the subject of lemons markets in general, and used car markets in particular. This literature makes it easier to understand why the FTC might have deleted the known defects provision from its Used Car Rule.

It is shown that the economic literature is divided on whether a lemons market actually exists in used vehicles. The authors' own research is supportive of the hypothesis that the Wisconsin statutes, with its "known defects provision," has been ineffectual in that the mix of used vehicles transacting there is of not significantly better quality than the mix in neighboring states without such legislation.

In a recent article in this Journal, Nicks (1987) methodically recounts the history of the FTC's Used Car Rule (Rule) and critiques the FTC decision to delete the "known defects provision" from the Rule. He examines five major themes, which he argues were used by the FTC Chairman and his staff, to buttress the decision. However comprehensive his discussion, Nicks limited his research to the law literature. In recent years, a sizable body of economic literature has developed on the subject of lemons markets in general, and used car markets in particular; see Akerlof (1970), Bond (1984), Metzger (1983), Pratt and Hoffer (1984, 1985, 1986a, b). Some of this literature (Pratt & Hoffer, 1985, 1986a, b) analyzes consumer experiences in Wisconsin where, as Nicks discusses at length, a used vehicle inspection and disclosure rule has been in effect since 1972. It is the purpose of this note to briefly highlight this literature. With this literature as background, one can better place in perspective why the FTC might have deleted the known defects provision from its Rule.

WHY LEMONS MARKETS EXIST

Few topics have become so engrained in modern folklore than consumers' collective experiences with "bad" used cars — the proverbial lemon. Over time, no single issue has captured the attention

of consumer groups more than how to protect consumers from purchasing a lemon. As Nicks notes, the FTC wrestled with this issue for over a decade before promulgating the present Rule.

The crux of the lemons problem is buyer-seller information asymmetry. A person selling any used product has much more information about its use and the expected probability of future repairs than does a prospective buyer. As Akerlof (1970) has shown, there can be the evolution of both market and non-market responses to the lemons problem. In either case, there is the attempt to provide additional information on product quality.

In the used vehicle market, a number of market and nonmarket responses have evolved. Since the 1940's, each domestic manufacturer has attempted to associate the quality of the better used cars sold by its dealers with that of new cars. For example, once a used vehicle meets certain quality standards, a Chevrolet dealer designates the vehicle as an "OK" used car. Ford and AMC dealers identify their better quality used vehicles as "A-1" and "Select," respectively. More recent market responses have included emphasizing dealer guarantees and offering extended warranties on better quality used vehicles, with the latter underwritten by independent insurers or the manufacturer.

The nonmarket responses to quality uncertainty have evolved through state codes. Each state has adopted some version of the Uniform Commercial Code to define the legal provision of both expressed and implied warranties. Many states have specific statutes that apply only to used vehicles. Some states require that a vehicle undergo a safety inspection prior to original sale and/or resale. Other states have adopted some form of used vehicle disclosure laws. These laws vary from only requiring disclosure of previous police or taxi use (California) to an extensive vehicle condition checklist (Wisconsin).

THE RECENT ECONOMIC LITERATURE

In the economics literature, there is some question as to whether or not the used vehicle market can in fact be classified as a lemons market. Bond (1982) first raised the issue of whether the used vehicle market was a lemons market, and consequently, whether any nonmarket response was appropriate. Because of the lack of neces-

sary data on the repair records of used automobiles, Bond used the Bureau of Census *1977 Truck Inventory and Use Survey (TIU)* (U.S. Department of Commerce, 1977) to acquire repair records of a sample of pick up trucks purchased new and purchased used. (Economists have argued that the pick up truck market has essentially the same characteristics as the passenger car market. Indeed, in over one-third of the states, a Chevrolet or Ford pick up truck is the largest single selling motor vehicle.) Bond concluded that there was not a significant difference between the maintenance records of pick up trucks which were purchased new and those that were purchased as used vehicles. He attributed his inability to find a lemons market to the development of market institutions such as dealer reputations and warranties which tended to lessen the buyer-seller information disparity.

Pratt and Hoffer (1984) analyzed the same data set, but concluded that the market for used pick up trucks was a lemons market. The authors divided the over 13,000 vehicles in the pick up truck sample into two groups: (1) those vehicles which had been purchased used within one year of the *TIU Survey* date and (2) those that had been acquired either new or used by their present owners, but in some prior period. The authors found that the group that had recently purchased their vehicles used, reported significantly higher average maintenance expenditures than the group which had kept their vehicles for a longer time period. This result led the authors to conclude that the market for used pick up trucks was a lemons market and that the market and nonmarket institutions which have evolved over several decades are not so strong as to counter the buyer-seller informational asymmetry. Thus, some further nonmarket response may be warranted. Bond (1984) reevaluated his analysis using certain of the changes made by Pratt and Hoffer and again concluded that there was not a lemons market.

A common nonmarket response to information asymmetry in used markets is a statutorily defined disclosure requirement, whereby the seller must certify whether their vehicle meets certain mechanical or previous service conditions. Metzger (1983) investigated a case where only dealers are required to certify used vehicle quality. He showed that, for a given level of quality certification, if the cost of inspection is less than the risk premium associated with buying a used vehicle of uncertain quality, then the price paid for used vehicles by dealers will increase, bringing forth a greater number of

better quality vehicles, which, on average, would require lower maintenance expenditures. If, however, the cost of vehicle certification to the dealer exceeds the risk premium, they will offer lower prices to used vehicle sellers. Therefore, sellers would tend to decrease the number of better quality used vehicles offered for sale. But the lower quality vehicles, lemons, would continue to be offered for sale and thus, on average, a person would be more likely to acquire a vehicle that would require higher maintenance expenditures. Thus, a paradoxical hypothesis emerges: Although the successful law would result in a mix of higher quality used vehicles, an unsuccessful disclosure law may impose on consumers a higher average maintenance cost than would exist in the disclosure law's absence. (Of course, this hypothesis does not give any inference on possible secondary benefits or costs to the consumer.)

To test this hypothesis, Pratt and Hoffer (1985, 1986a, b) relied again on the *TIU Survey* data. From the *TIU Survey*, we chose all pick up trucks in Iowa, Minnesota, and Wisconsin that had been purchased used within one year of each state's Census survey date. These states were chosen because they reflect a spectrum of disclosure requirements. Iowa is one of several states that require vehicles be safety inspected only when they are sold. Minnesota is representative of a number of states that require no vehicle inspection program or other disclosure requirements. Wisconsin represents the only state to have a comprehensive used motor vehicle disclosure law. As Nicks (1987) describes in detail, since 1972, Wisconsin statutes have mandated that dealers inform, in writing, retail motor vehicle purchasers about all significant defects and damages which can be ascertained as a result of reasonable diligence.

If the Wisconsin used vehicle statute, with its known defects provision, was effective, one would expect to find that in the year after used vehicle purchase, Wisconsin consumers should have reported significantly less maintenance expenditures than either Iowa or Minnesota consumers. In effect, the average estimated maintenance expenditures by Wisconsin used pick up truck purchasers was actually higher than those reported by comparable Iowa or Minnesota consumers, although not significantly different from zero. Since we found no significant difference, we concluded that the level of quality certification required by Wisconsin was ineffectual during the period studied. Our findings are consistent with Metzger's hypothesis concerning the impact of an ineffectual disclosure law.

CONCLUDING REMARKS

The decision of the FTC to delete the “known defects provision” from its Used Car Rule, seems to have put it in the awkward position of being against information dissemination. Nicks is representative of a sizable and vocal group which has been highly critical of this deletion.

As we have discussed in this paper, the economic literature is divided on whether a lemons market actually exists in used vehicles. Furthermore, it can be shown that statutes which require either too much or too little information disclosure can be counterproductive.

Our research is supportive of the hypothesis that the Wisconsin statute, with its “known defects provision,” has been ineffectual in that the mix of used vehicles transacting there is of not significantly better quality than the mix in neighboring states without such legislation. Since the original FTC Rule was modeled after the Wisconsin statutes, the decision to delete the known defects provision can be defended as Nicks has outlined — on the basis of cost exceeding benefit and on the basis of ineffectiveness.

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ZUSAMMENFASSUNG

Gebrauchtwagen, Märkte mit mangelhaftem Angebot und Regeln zum Gebrauchtwagenhandel: einige empirische Befunde. Dieser kurze Bericht möchte herausstellen, was die ökonomische Literatur ganz allgemein zum Thema "Märkte mit mangelhaften Produkten" und zu Gebrauchtwagenmärkten im besonderen zu sagen hat. Aufgrund dieser Literatur ist es vielleicht leichter zu verstehen, warum die amerikanische Wettbewerbsbehörde keine Vorschrift über bekannte Mängel in die Bestimmungen über den Gebrauchtwagenhandel aufgenommen hat.

Es wird gezeigt, daß in der ökonomischen Literatur umstritten ist, ob man bei dem Gebrauchtwagenmarkt überhaupt von einem Markt mit schadhaften Produkten (lemons market) gesprochen werden kann. Die Autoren sehen durch ihre eigenen Ergebnisse die Vermutung gestützt, daß die Statuten des Staates Wisconsin, die eine Offenlegung bekannter Mängel fordern, insofern ineffektiv sind, als die Gebrauchtwagengeschäfte in diesem Staat durchschnittlich nicht auf einem höheren Niveau abgewickelt werden als in Nachbarstaaten ohne eine solche Bestimmung.

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