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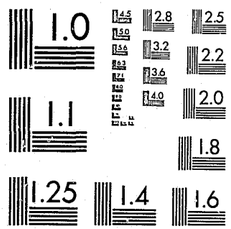

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Deterring Automobile Repair Fraud
A Field Experiment

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Introduction

A panel of academicians convened to study the scientific status of deterrence in the realm of criminal justice concluded "we cannot yet assert that the evidence warrants an affirmative conclusion (Blumstein et al, 1978: 7)." The layman would probably scoff at such social science equivocation. The individual who daily drives on a freeway readily appreciates the deterrent effect that a police car can exercise on him and his fellow commuters. The historian would also be puzzled by this criminological conclusion about deterrence. He might wonder to what the social scientist would attribute the conversion of Jews in Spain following the governmental edict in 1492 prohibiting the practice of Judaism if not to the ability of penalties to change behavior.

The study of deterrence need not strive to prove whether or not there is such a general thing as a "deterrent effect." As Johannes Andenaes (1971: 537-38) has pointed out:

> General propositions accepting or rejecting deterrence ought to belong to the past. The question is not whether punishment has a deterrent effect, but rather under what conditions and to what extent the deterrence purpose is effected. . .Common sense tells us that the threat of punishment does not play the same role in offenses as different as murder, rape, tax evasion, shoplifting, and illegal parking.

In line with Andenaes' suggestion, current research on deterrence is apt to concentrate on particular forms of illegal behavior. This paper investigates selected deterrence principles with respect to the California automobile repair industry. The project involved a pre- and post-test in two matched California areas to determine the degree of auto fraud and/or

incompetence among sampled repair dealers in each city.

Auto Repair Fraud

Fraud committed by auto repair dealers steals both life and money from the public. Americans spend over $40 billion each year to maintain their individualized transports: $2 billion allegedly is wasted on fraudulent repairs. In fact, it is estimated that $12 to $20 billion of the American repair bill is for unnecessary, not done, or fraudulent repairs (Jones et al, 1979).

Such expenditures surely subtract from the total dollars spent on necessary repairs -- both of a mechanical and a safety nature. One study (1967: National Safety Council) concluded that eleven percent of turnpike accidents were because of a vehicle's mechanical defects, inadequate brakes, and so on. Another study (Motor Service, 1970) found that of 409 fatal, single-vehicle accidents, 29 percent of the cars involved had one or more mechanical defects. We can assume that many of the "accidents" could have been prevented by better maintenance. Money wasted on unnecessary, not done, and fraudulent repairs would be better expended on preventitive care.

Fraudulent and incompetent repairs particularly victimize the poor, since they can least afford such excess costs. In our society, the common necessity to own an automobile in order to get to work underlines the discriminatory effect of automobile repair fraud and incompetence. The loss of an automobile can be devastating to the worker who commutes daily and does not have access to another family vehicle. Women and members of minority groups may suffer an adversely disproportionate amount of the loss. Researchers at the University of Alabama, for example, found that females spent significantly more for unnecessary repairs than their male counterparts (Castell et al, 1978: 48). This report will later present evidence that minorities are more likely than members of other groups to be the victims of repair fraud.

White Collar Crime and Deterrence

The study of automobile repair fraud is a rich source of information for the more general topic of white-collar crime: a crime committed by an individual (or a corporation) in the course of his occupation (Sutherland, 1949). Insights regarding the illegal practices of repair dealers might be applicable to other white-collar crimes. Certain factors common to many white collar occupations, may be crimogenic -- that is, there is a greater likelihood of illegal behaviors when these forces are in place than when they are not.

The selection of white-collar criminals as the population of interest in a deterrence study involves a number of considerations not found in more traditional studies. First, these offenders do not fit the public's traditional stereo-type of the criminal element. As early as the turn-of-the-century, Edward Ross (1907) was calling attention to the fact that white collar criminals were often leading members of the community. Their status may make it difficult to use measures that could increase deterrence efforts. The public demands stiffer sentences for street criminals, such as rapists, who are viewed with abhorrence (Schawartz). The same vengeful attitude is absent in regard to the higher socio-economic offenders, such as the anti-trust violator (Geis, 1973). Concomitantly, legislators, who are from the same class as the white-collar criminal (and who may very well be offenders themselves), may prove unsympathetic to deterrence efforts in this realm. In addition, if deterrence efforts are increased, for example, by longer jail sentences, bureaucrats and judges may balk at implementation of the measures.

Second, white-collar crime is often not policed in the same manner as the traditional offenses. They often are handled by administrative regulatory agencies. Such agencies undercut the implementation of some deterrence principles. The favor non-criminal solutions, thus negating the threat of criminal

prosecution and conviction. They also introduce more avenues of appeal and delay which defeats celerity.

Third, it is often difficult for the victim of a white-collar crime to realize that an offense has occurred. The individual who is sold an unnecessary wheel alignment may never know that he was victimized. This situation requires a proactive stance by the interested policing agency. Such a move is expensive and may lead to enforcement abuses. Regardless, proactivity is necessary if one wishes to increase the certainty of apprehension for many white-collar crimes.

The foregoing points are important to consider when developing an experiment to test deterrence principles in regard to a white-collar offense. We had to pick a behavior that had angered the public and the legislature. The policing agency had to be aggressive and efficient. And finally, a legitimate, inexpensive method was needed to uncover the crimes.

Automobile repair fraud presented a good fit to the above criteria. First, the public and the Congress are incensed at the treatment afforded them by automobile repair dealers. Second, conversations with the California (BAR) Bureau of Automobile Repair (the state licensing agency for automobile repair dealers) indicated its willingness to cooperate in a deterrence experiment. Next, a number of previous studies aimed at examining automobile repair had tested a variety of simple methods for uncovering fraud and/or incompetence. Finally, deterrence literature suggests that the status of the fraudulent repair dealers and the suspected, rational nature of the offenses makes the maintenance industry particularly susceptible to deterrence efforts. This literature is discussed in some detail in the following section.

The foregoing items led us to select automobile repair dealers as our population.

History and Definitions

The basis of the deterrence doctrine is that crime rates are negatively related to properties of punishment, particularly the perceived certainty of legal punishment, and, to a lesser extent, the severity of the punishment. This hypothesized relationship has been found with respect to a variety of offenses, ranging from criminal homicide to parking violations (Tittle and Logan, 1973; Zimring and Hawkins, 1973).

The principles of deterrence were first delineated in some detail by Cesare Bonesana, Marchese de Beccaria (1738-94) and Jeremy Bentham (1748-1832). These two intellectual leaders of the Classical School of thought theorized that individuals could be controlled by their fear of punishment. Beccaria believed that "(p)ain and pleasure are the only springs of action in beings endowed with sensibility (31)." Man was viewed as being guided by reason and endowed with "free will." He was responsible for his acts. The Classical School held that man could be controlled by making the pain from punishment exceed the pleasure obtained from the criminal act. The rational man would then choose "the desirability of non-criminal conduct (Vold: 25)."

Bentham and Beccaria viewed the punishments of the time as illogical. The penalty for murder was death and the penalty for theft was death. Under such a system of sanctions, they argued, there was no incentive for the thief not to kill his victim. Beccaria urged that there should be "a scale of crimes. . . of which the first degree should consist of those which immediately tend to the dissolution of society: and the last of the smallest possible injustice done to a private member of society (23)."

Members of the Classical School believed that the purpose of punishment is crime prevention. Punishment is desirable only if it deters others from criminal behavior. In order to accomplish this goal, Beccaria maintained that the public should be made aware of all laws; that trials should be swift; and that certainty and swiftness of punishment will have greater deterrent effect

than severity.

Becarria's belief that there should be "a scale of crimes -- of which the first degree should consist of those which immediately tend to the dissolution of society" represents a position that many feel is held by white-collar crimes (Magnuson and Carper: 62; Mintz and Cohen: 265-66; President's Crime Commission: 158). Geis (1973: 189), for example, argues for increased prosecution of white-collar crimes on grounds "that they threaten the integrity of society." Such behavior was seen as exceptionally deserving of study.

The literature suggests that white-collar criminals may be more sensitive to deterrance efforts. Frank Zimring and Gordon Hawkins (1973: 127) present some thoughts concerning these individuals. "(I)t seems likely," they write, "that those who attain high status will possess many of the characteristics that may be associated with maximum threat influence, such as a sense of the significance of the future and a strong loyalty to a social system that has been responsible for much of their success." Similarly, Michael Geerken and Walter Gove hypothesize that "the effectiveness of (a) deterrence system will increase as the individual's investment in and rewards from the social system increase (509)." It has been suggested that these individuals may be susceptible to even minimal efforts. Marshall Clinard's research (1952) of violations by businessmen of wartime regulations led him to conclude that "because of their reputation, a short (jail) sentence may be as effective with businessmen as a long sentence with lower class criminals (91)."

It is also noted that white-collar crimes are rational behavior rather than impassioned or impulsive outbreaks. Such crimes, it has been hypothesized, are more susceptible to deterrence efforts (Chambliss, 1967: 709). The record of the anti-trust violations in the heavy electrical equipment industry shows businessmen rationally planning their crimes (Geis, 1967). Robert Lane's

research revealed that businessmen and government officials "believe that businessmen run afoul of the law for economic reasons -- they want to 'make a fast buck' (1953)." Lane concluded that most profitable companies do not violate as easily and quickly as their less fortunate counterparts -- the same conclusion as Clinard's more recent research (1979). The suggestion is that such behavior is further evidence of the rational, economic nature of white-collar crime.

Hypotheses

The research utilized several of the foregoing ideas. An intervention aimed at deterring automobile repair fraud was designed and implemented in the experimental city. The intervention consisted of three components: (1) The BAR sent all registered repair shops in the experimental area a letter reminding them of the law and the consequences for violations; (2) Public Service Announcements informing the public of the existence of the BAR were broadcast on radio and television; (3) A civil suit was filed against a major automobile repair dealer. It was believed that these efforts would increase the repair dealer's perceptions of the certainty of detection. The literature suggests that the target population of this study, automobile repair facilities, should be especially sensitive to these reminders. Such evidence led us to hypothesize that the intervention would decrease the incidence of auto repair fraud.

The literature suggests a number of additional hypotheses. John Ball (1955: 351) was one of the first to note that "risk" is a potentially important variable of deterrence. It is generally hypothesized that the greater the perceived risk of being apprehended, the less likely the individual is to commit the offense (Geerken and Gove, 1975: 500). Zimring and Hawkins (1973: 106) write that "we cannot specifically affirm the relevance of risk preferral versus risk avoidance, but it is reasonable to assume that it conditions threat responsiveness." We hypothesized that the lower the preceived

certainty of apprehension, the more likely it is for a repair facility to participate in fraud. We also believed that "risk-avoidance" establishments, that is, shops which do not pay commission, would be less likely to violate the law.

"Deterrence research," writes Andenaes (1975: 341), "has been mainly concerned with the effects of severity and certainty of sanctions." He suggests a third variable: "the perceived legitimacy of the criminal justice system and of the particular statute under examination (341)." Andenaes believes that "to exert a moral influence, the law and the machinery for enforcement of it must be looked upon as wielding legitimate authority (342)." We hypothesized the lower the perceived legitimacy of the BAR, the more likely it is for a repair facility to engage in fraud.

Andenaes (1975: 363) also suggests "that a more lenient system, which is accepted as fair and consistent, has a stronger impact than a more severe system which creates the impression of inconsistency and arbitrariness." It was hypothesized that repair establishments which perceive the BAR as being consistent and fair would be less likely to be fraudulent.

Lane (1953), as mentioned earlier, analyzed a number of statutory transgressions of New England manufacturers. His evidence suggests that violation of the law by businessmen may be related to the economic health of the company. That is, declining companies were more likely to violate the law than those in more prosperous circumstances. Clinard (1979) recently reached similar conclusions. We hypothesized that financially healthy businesses would be less likely to commit fraud.

Lane's analysis also suggests that a smaller business is more likely to violate certain laws than a larger one. We hypothesized a similar relationship for the automobile repair dealers.

We measured two other variables during the project that we felt would be related to compliance. It is often argued that crooked dealers do not remain in business long. We hypothesized the greater the longevity of the current management, the less likely the shop would be to engage in fraud. An finally, capitalistic theory suggests that a business is more likely to be law-abiding if the owner is present. We hypothesized the same relationship for the repair dealers.

Bringing Together the Past and Present

The present research attempted to minimize criticisms directed at past deterrence studies. The most popular research method has been to use states, counties, or cities as units of analysis. An attempt is made to establish a link between crime rates and measurements of certainty of punishment for different crimes. Again, if deterrence principles are valid for a given criminal behavior, one would expect a negative relationship between certainty of punishment and crime rates. The more likely it is for an offender to be punished for his crime, the lower the crime rate should be. Jack Gibbs (1968), for example, applied this technique to murder rates for each state as reported in the FBI's Uniform Crime Report. His research led him to believe that the certainty of punishment effected the murder rate. Similar studies, with few exceptions (Forst, 1976), have consistently found that the data supports the deterrence philosophy.*

Such studies have been criticized for not accurately measuring the two important variables -- (1) certainty of punishment and (2) incidence of crime.

*See Gray and Martin, 1969; Title, 1969; Logan, 1972, Antunes and Hunt, 1973: ~~Gray and Martin, 1970;~~ Chiricos and Waldo, 1970; Ehrlich, 1973; ~~Michael Block, 1972; Phillips and Votey, 1972;~~ Logan, 1975; Geerken and Gove, 1975.

Certainty of punishment is generally measured by:

> "(1) the risk of police apprehension which is measured by the clearance rate or by the ratio of arrests to reported offenses; (2) the risk of conviction, which is the ratio of convictions to reported crimes; (3) the risk of imprisonment, which is the ratio of prison commitments to reported crimes; and (4) the severity of prison punishment, which is usually measured by mean or median time served (Blumstein et al., 1978: 22)."

The deficiencies of this data are (1) behavior may be defined as criminal by one observer but not by another; (2) many criminal acts go undetected; (3) all detected crimes are not reported; (4) all reported crimes are not recorded; (5) all arrests do not lead to conviction; and (6) individuals often are convicted for a lesser offense than the one for which they were arrested (Kasimar, 1972; Wheeler, 1967; Wolfgang, 1963; Nagin, 1978; and Pepinsky, 1980). In addition, analysis of such data has been biased in favor of sanction effecting crime. Little attention has been paid to the probability that crime effects sanctions (Pontell, 1978). Increased crime, for example, may lead to overcrowed jails which may lead to reduced sentences. The validity of the above studies is further clouded by the compounding effect of incapacitation, that is, the imprisoning of criminals may reduce the crime rate without deterring one individual. Jack, for example, is committing all the robberies in a small town. His arrest eliminates all such behavior. Jack was not deterred by the threat of imprisonment and no additional individual is deterred because of Jack's incapacitation -- yet, the robbery rate drops. Finally, such studies have been unable to eliminate possible third sources as avenues of bias. For example, juveniles commit a large proportion of reported crime but are not

always included in conviction statistics.

To minimize the above criticisms, we decided to duplicate, as nearly as possible, a controlled experiment. Blumstein and his colleagues argued that "(f)rom a scientific perspective, controlled experimentation is the ideal approach to test for any effects, including those of deterrence (20)." In Holland, for example, Buikhuisen (1974) conducted a study of efforts to deter the use of worn tires on cars. For two weeks the police and press of the Dutch town of Gronigen publicized a police effort to control the studied behavior. The town of Leeuwarden was used as a control. Cars with worn tires were sought out in both towns prior to the publicity. After the two week effort, previously inspected cars were again found and reinspected. The result was a 54 precent renewal rate in Groningen compared with 27 percent in Leeuwarden.

In another such experiment, Schwartz and Orlean (1967) studied the effects of surveying taxpayers attitudes. One group of taxpayers was asked a set of questions which accentuated moral reasons for complying with the tax laws. Another group was asked questions which emphasized the avoidance of punishment as the reason to obey the tax laws. A third group was asked questions that were "without any accentuation questions." A fourth group was not surveyed. Their results "suggest that conscience appeals are more effective than sanction threats, though both have some effect (299)."*

Replication of such studies can provide strong evidence in favor or against deterrence efforts for a given behavior. The suggestion is that

*See also Decker; 1972, Chaiken, Lawless, and Stevenson, 1974; Chambliss, 1966; and Tittle and Rowe, 1973.

policy makers would have some information regarding certain behaviors. Such evidence led us to select experimental research.

Method

First, we sent women to randomly selected repair facilities in two matched California metropolitan areas. We used women because there is some evidence that they are more likely to be the victims of repair fraud. We were interested in establishing a situation where fraud might occur.

The women approached the appropriate people at the garages with the story that they were moving and their cars did not start. Again, we were interested in maximizing the opportunity for fraud. It was our assumption that a person about to leave town made a particularly vulnerable target for exploitation. Our potential victims further explained that their car battery was in the trunk of the borrowed cars they were driving. They requested the shops to test the batteries.

The above measure (the "battery test") minimized a major problem for us -- the separation of standard operating procedure and incompetence from fraud. Previous studies of repair facilities had not attempted to delineate between the behaviors. For example, one measure we pilot-tested that had been used on previous studies was to disconnect the vacuum advance hose. This defect causes poor acceleration and, if one has a very sensitive ear, a hissing noise. Our driver took a car with these complaints to a number of places for pilot-testing. A standard facility response was "sounds like a vacuum leak, but I'll have to put it on the scope." The cost of connecting the car's engine to the scope (a piece of diagnostic equipment) was, on the average, $20. It is industry practice to use the scope whenever possible. This practice exists despite the facts that (1) the vacuum advance hose is easily visable once the hood is open and (2) the results of a survey we conducted of California Community

College auto shop teachers in which 90 percent of those who responded said they would check the vacuum advance first given our complaints. We felt that such industry practice was not deterrable behavior.

The "battery test" provides a better measure of criminal behavior. The sampled shops all had some means to measure the quality of the batteries. A shop's recommendation to replace the battery combined with the written report of our "victim" helped minimize the possibility that we were measuring incompetence, that is, we were better able to recognize "fraud." Within days following the "battery test," surveyers approached the shops. Managers and owners were asked questions regarding the structure of their business, the size of the business or if the owner is present-items that the literature suggests might be related to compliance. They were also requested to agree or disagree with attitudinal statements also suggested by the literature. These included perceived certainty and severity of punishment. We wished to establish a set of independent variables to predict the dependent variable-"honesty." Approximately 80 percent of the shops responded.

We then subjected the experimental area to an intervention. First, Public Service Announcements (PSA's) informing the public of the existance of a state agency to which they could report questionable repair dealers were broadcast on radio and television. Second, the county's district attorney filed a civil suit against a national firm for illegalities in their auto repair outlets. Finally, the Bureau of Automotive Repair sent the repair dealers in the area a letter reminding them of their duties under law, the reasons for the law, and the consequences of violation. Nothing unusual was done in the control area.

Finally, we post "battery-tested" all shops we had pre-tested. In addition, we "battery-tested" and surveyed a post-test only group in each area.

Preliminary results

The pre-test "honesty" rate (the percentage of shops that did not recommend a new battery) for the experimental group was 92.5 percent (n equals 67). For the control group, the rate was 94.1 percent (n equals 68). At the post-test, these groups had "honesty" rates of 85.9 percent (n equals 64) and 85 percent (n equals 60) respectively. The "honesty" rate for the post-test only group in the experimental area was 91 percent (n equals 90). The rate for the post-test only group in the control area was 80.7 percent (n equals 88).

	PRE	PRE AND POST TESTED	POST TEST ONLY
experimental	92.5%	85.9%	91%
control	94.1%	85%	80.7%

The only chi square that was significant was the difference between the pre-test group's honesty rate in the control area (94.1%) and the post-test only group's honesty rate in the control area (80.7%). The chi square was .02770.

All other data has yet to be analyzed.

Postscript

One week after the post-test, we sent a black woman to "battery-test" twenty of our previously tested dealers. The twenty were randomly selected from those shops in the experimental area that had been pre- and post-tested. Two of the twenty outlets stated they would be unable to test the battery. Eight shops reported the battery to be good. Ten dealers, however, suggested that a new battery was needed immediately or in the very near future.

Discussion

This project attempted to test deterrence principles with regard to the California auto repair industry. The initial analysis suggests a deterrent effect was accomplished. Alternative explanations for the results are being

researched. It may be, for example, that a worsening economy was related to the drop in "honesty" in the control city. If true, it is necessary to show that the two areas did not suffer equally -- that is -- that the recession was not felt similarly in the experimental and control areas.

The results concerning race difference are highly suggestive of greater victimization of minorities.

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