

VEHICLES FOR REFORM IN THE AUTOMOBILE INSURANCE MARKET

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The rapidly rising cost of auto insurance led to the passage of California's Proposition 103. In addition to drastically rolling back auto insurance premiums, Proposition 103 changed the method of selecting the state insurance commissioner: from appointed by the governor to elected by the people. Controlling for relevant supply and demand factors, this paper examines whether method of commissioner selection and length of commissioner term is associated with lower automobile insurance rates in other states. The study's results indicate that changes in the method by which insurance commissioners are selected is unlikely to stem the tide of rising automobile insurance premiums. More promising for consumers may be policies that directly reduce the frequency and severity of automobile accidents.

INTRODUCTION

The 1988 passage of Proposition 103 in California sent shock waves through the insurance industry. The most visible feature of Proposition 103 was its drastic rollback of auto insurance premiums, but consumer leaders like Ralph Nader stated that Proposition 103's regulatory reforms were even more significant (Harbrecht and Grover 1989). One of these regulatory reforms, the formation of a consumer advocacy corporation for insurance issues, was struck down by the California Supreme Court in 1989. However, a second regulatory reform, the change from an appointed (typically from the ranks of the insurance industry) to an elected state insurance commissioner, will be implemented in November 1990.

Both of Proposition 103's regulatory reforms highlight the desire for improved consumer representation in the insurance industry. A variety of mechanisms have been developed to promote consumer representation in state-regulated industries other than insurance,

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including the creation of non-profit citizen utility boards and the establishment of governmental consumer counsels. Yet, the insurance industry has remained remarkably impervious to consumer representation efforts. Agents and brokers purport to represent the consuming public, and state insurance commissioners assert that they are protecting consumers, but, as one insurance trade magazine admitted, "the public laughs at both of the claims" (Diamond, 1989).

Research on consumer representation at the state level has focused primarily on public utilities, such as electricity and local telephone companies, and on state-licensed occupations. In contrast, there is virtually no tradition of consumer representation in the insurance industry, and hence no research on how to promote effective consumer representation. Consequently, well-intentioned and time-consuming attempts to improve the quality of consumer representation in the insurance industry have proceeded without a firm conceptual basis. The purpose of this paper is to examine the impact of two variables relevant to consumer representation--method of commissioner selection and length of commissioner term--on state automobile insurance rates, while holding constant other likely influences on these rates.

PREVIOUS RESEARCH

Just as escalating rates for automobile insurance are currently focusing attention on regulatory reforms and consumer representation, increasing rates for electricity and local telephone service had the same effect in the recent past. Of the many possible political influences on prices charged by state-regulated industries, the method of selecting commissioners has received the most research attention. The basic hypothesis being tested in these studies is whether elected commissioners are more responsive to the public and therefore try harder to keep rates as low as possible. The majority of studies fail to support this reasoning. Regarding electricity rates, Crain and McCormick (1978) found that elected commissioners dampen electricity rates, but seven other studies (Brewer and Mann 1989; Costello 1984; Gormley 1983; Hagerman and Ratchford 1978; Harris and Navarro 1983; Pelsoci 1979; Primeaux and Mann 1986) found no relationship between method of commissioner selection and electricity rates (or related

dependent measures).⁵ Similarly, Mayer, Zick, and Burton (1989) found that local telephone rates were no lower in states with elected commissioners than in states with appointed ones.

Several other political variables have been tested for their relationship to electricity and local telephone rates. One of these is the length of a commissioner's term of office. As in the case of appointed commissioners, longer term lengths are thought to limit a commissioner's degree of exposure to citizen wrath concerning the prices charged by state-regulated industries.⁶ Hagerman and Ratchford (1978) found that longer commissioner terms were indeed associated with higher allowed rates of return for electric companies, but Boyes and McDowell (1989) found that the length of commissioner terms was unrelated to electricity rates. Mayer et al. (1989) reported that longer commissioner terms were related to lower rates for local telephone service.

Ambiguous results also exist with respect to the importance of the number of commissioners and the amount of commission resources. Pelsoci (1979) as well as Boyes and McDowell (1989) found that the greater the number of commissioners, the higher were electricity rates, but Hagerman and Ratchford (1978) found no such relationship. Similarly, larger utility commission staffs (Pelsoci 1979) and larger commission budgets (Boyes and McDowell 1989)

⁵In an additional study, Boyes and McDowell (1989) argue that elected vs. appointed is not as relevant as how election or appointment occurs. Specifically, statewide elections may be similar to gubernatorial appointment without legislative confirmations because both insulate commissioners from small, clearly defined constituencies. Conversely, district election of commissioners is similar to appointment by the governor with legislative confirmation to the extent that the governor is accountable to individual legislators and their districts. The argument made by Boyes and McDowell is supported by their empirical analysis. Method of commissioner selection (appointed vs. elected) is unrelated to electricity rates unless an additional variable is included. This variable measures the size and distance of the voter/consumer constituency. It takes on the value of one only if commissioners are elected at a statewide level. All other methods of selection (local election and all forms of appointed) are coded as zero. By including the latter variable, the coefficient on the elected vs. appointed variable only captures the effect of the greater accountability of elected commissioners, an effect that is masked when one combines statewide and local election.

⁶This view of commissioners as striving to maximize their own freedom of action is consistent with the view of regulation expounded by Stigler (1971), Peltzman (1976), and more recently Evans and Garber (1988).

were related to lower electricity rates, but another study (Gormley 1983) showed that a more inclusive measure of commission resources (including commissioner salaries, budget size, and data processing capacity) was related to a higher percentage of rate requests granted. Thus, no consistent pattern emerges for any of the political variables that have been analyzed as potential influences on regulatory outcomes.

A possible exception to this pattern of inconclusive results involves the presence or absence of state-supported consumer advocates who intervene in public utility proceedings ("proxy advocates"). Gormley (1983) found the presence of independent consumer counsels or special staffs under the attorney general to be associated with lower electricity rates, and Mayer et al. (1989) reported the same relationship for local telephone rates. However, the applicability of these findings to the case of insurance is limited by the fact that only four states have proxy advocates for insurance matters.

In sum, research on proxy advocates suggests that Proposition 103's attempt to establish a non-governmental corporation to intervene in insurance hearings might have been useful to insurance consumers. In contrast, the research on method of commissioner selection provides less ground for optimism regarding the switch from an appointed to an elected insurance commissioner. Of course, these results are based on data from the electricity and telephone industries, where regulated monopolies are tightly controlled compared to the automobile insurance industry. The research conducted here provides direct information regarding the relationship of two political variables to automobile insurance rates. One variable is the method of commissioner selection, and the other is the length of commissioner terms. Elected commissioners and fixed term lengths are expected to be associated with lower insurance rates.⁷

MODEL

The general model guiding research on the influence of political factors on rates in regulated industries sets prices as a function of three types of conditions: (1) supply, (2) demand, and (3) political (usually, regulatory). In this framework, the supply and demand conditions are treated as control variables, and the research focus is on the political variables. The model presented below takes this approach.

⁷Other political variables that have been used in previous research are not relevant in the case of automobile insurance. Specifically, there is virtually no state-by-state variation in the presence/absence of proxy advocates or the number of insurance commissioners.

The Dependent Measure

A number of outcomes measures could be used when studying the influence of the method of commissioner selection and length of commissioner terms on the welfare of auto insurance consumers. Premium prices are important to consumers, but so are various aspects of service quality, for example, the speed and courteousness of claims processing. In addition, a number of units of analysis are possible. Rates may be measured at the level of individual firms or aggregated across firms in a given geographical area.

In the empirical analysis that follows, the dependent variable is the average annual private passenger automobile insurance premium,⁸ and the unit of analysis is each state in the United States. Data regarding average automobile premiums by state are compiled on an annual basis by A. M. Best Company. To obtain this average, total private passenger auto premiums are divided by a state's number of registered vehicles.⁹ The most recent data are for the year 1987 and are used in this analysis. Measures of the independent variables are based on 1985 and 1986 data to reflect the time order implied by the model.

Supply Factors

The costs of insuring motorists is highly dependent on the frequency of accidents and the costs of accidents. The former is a function of a number of factors, including characteristics of the driver (e.g., age) and the driver's environment (e.g., road congestion, weather conditions). The latter is largely a function of the costs of medical care, legal services, and automobile repairs (Masterson 1989; Snyder 1989).

⁸Lower rates for automobile insurance may not necessarily be in the long run best interests of consumers. It is possible, as many insurance firms asserted after the passage of Proposition 103, that excessively low rates drive firms from the market, resulting in less competition and, eventually, higher rates and/or lower service quality. Until this outcome is documented, however, it seems reasonable to assume that lower insurance rates are better for consumers than higher ones. Only longitudinal studies focusing on changes in the both the quality and quantity of automobile insurance can resolve this issue.

⁹The resulting averages are potentially skewed by the unknown number of registered but uninsured vehicles in a state. Some states rely on a "security" system whereby, following an accident, each driver/owner of the vehicles involved must show ability to pay damages which may be charged in subsequent legal actions. Moreover, some automobiles are operated without insurance even when insurance is compulsory in a state.

The death rate per 100,000,000 vehicle miles driven in a state during 1985 serves as a summary measure of the frequency of accidents (assuming that nonfatal accidents are roughly proportional to fatal ones across states). It is the most straightforward measure of risk exposure from an epidemiological and actuarial point of view. The death rate reflects the risk per unit of driving activity and, as a result, it incorporates such factors as alcohol consumption, seat belt usage, the age distribution of a state's population, its road quality and congestion, and its weather conditions.

The costs associated with accidents are proxied in this analysis by the average hospital charge per patient day in 1986, based on data compiled by EQUICOR (1987). Data on comparative legal costs among states are not available, although one might argue that there is a rough correlation across states between the costs of professional services such as litigation and medical care. Nor are there state-level data on the cost of car repair services. However, since car repair services are generally more expensive in urban areas than rural ones, a state's degree of urbanicity might approximate comparative repair costs. In this study, states are compared in terms of the percentage of their population that lived in urban areas as of the most recent U.S. Census in 1980.

Automobile insurance companies typically offer multi-car discounts. This implies that there are economies of scale in the selling of car insurance to households. Accordingly, a state's average automobile premiums per car (the dependent variable in this analysis) should reflect the average number of cars insured on a given policy. In this analysis, the likelihood of multi-car discounts is measured by a state's number of registered automobiles divided by the number of licenses in force, both as of 1986. All things being equal, there should be more multi-car discounts in a state where there are more registered vehicles per driver's license compared to a state where there are fewer registered vehicles per license.

A final supply factor involves no-fault insurance. Hailed by many as the key to reducing the costs associated with automobile accidents, many states have enacted no-fault statutes, although of varying intensity. Some observers contend that only three states (New York, Michigan, and Florida) have "true" no-fault systems, but an additional fourteen states had some form of no-fault insurance in place as of 1985. Because it is not possible to include a variable based on only three of fifty states, for the purposes of this analysis, all seventeen no-fault states are combined and compared to all other states.

Demand Factors

The demand for automobile insurance is related to market forces (i.e., desire and ability of

consumers to pay for it) plus government requirements. Higher income people will own more expensive cars than lower income people. In addition, they will view it to be more advantageous to protect their assets in case of an auto accident. Hence, by including a state's per capita income in the model (U.S. Bureau of the Census 1987), both of these demand factors should be captured.

States also impose a variety of requirements that may affect the amount of automobile insurance that a consumer purchases. Some states mandate automobile insurance coverage, while others have financial responsibility laws whereby persons involved in an automobile accident must furnish proof of their ability to pay for any damages arising from the accident. Every state has either a financial responsibility law or a compulsory insurance law; some states have both. In practice, it is doubtful that these states differ in terms of the degree to which they encourage the purchase of automobile insurance since the most common way to fulfill a financial responsibility requirement is to buy automobile insurance.

Perhaps more important than financial responsibility or compulsory insurance laws are state differences in the minimum amount of coverage stipulated by these laws. The minimum amounts have three liability components: (1) individual bodily injury, (2) total bodily injury, and (3) property. As in the case of insurance/financial responsibility requirements, these minimum amounts do not serve as binding constraints upon the majority of consumers; they would normally want even more insurance. Nevertheless, the demand for automobile insurance in a given state may be influenced somewhat by its minimum liability requirements. For the purposes of the empirical work below, the three components of minimum liability are summed. In 1985, for example, Wyoming had limits of 10/20/5, equalling a total of 35. In contrast, neighboring Colorado had limits of 25/50/15, for a total of 90.

A final state-imposed requirement that can affect the demand for automobile insurance is mandated coverage for uninsured drivers. As of 1986, six states had such requirements. A dummy variable measuring the presence or absence of this requirement is included in the analysis.

Political Factors

The main focus of this research is on the association of two political variables with automobile insurance rates. One of these variables is the method of selecting commissioners: elected vs. appointed. Elected commissioners are hypothesized to generate lower rates than appointed ones because elected

commissioners are thought to be more responsive to public sentiment than appointed ones. In point of fact, there are several variations in the way in which insurance commissioners are appointed. Most of the appointments are made by governors, but some are made by agency heads or by boards. Adding to the diversity, some appointments require legislative confirmation while other do not. In the analysis described below, method of commissioner selection is simply divided between the 11 states that had elected commissioners as of 1986 and the 39 states that had any type of appointed commissioner.

A commissioner's term of service is also hypothesized to affect auto insurance rates. All elected commissioners have fixed terms, but appointed commissioners can have fixed terms or indefinite ones. Indefinite terms are expected to insulate commissioners from consumer dissatisfaction over high rates relative to fixed terms. The measurement of term length is relatively straightforward and is taken from information found in The Directory of State Insurance Departments (1988).

Method of commissioner selection and term length are captured together by two dummy variables. The first takes on value of "1" if the insurance commissioner is elected. The second dummy variable has a value of "1" if the commissioner is appointed to a fixed term. The omitted category in both cases consists of commissioners appointed for an indefinite term.

THE RESULTS

Descriptive statistics for all of the variables used in the analysis appear in Table 1. According to the information presented in Table 1, the 1987 average insurance premium per registered automobile was \$456 across all 50 states. There was substantial variation in the premium with a reported low of \$256 (Iowa) and a high of \$656 (Massachusetts). An initial examination of the differences by commissioner type reveals that the mean insurance premium in states where the insurance commissioner had an indefinite appointment was \$481, while in states where the commissioner was appointed for a fixed term the mean rate was \$454. As consumer advocates would predict, the lowest premiums were found in states with elected insurance commissioners. These states had an average premium of only \$422 in 1987. While it is tempting to conclude from these figures that elected insurance commissioners take actions to keep automobile insurance premiums low, a closer examination using analysis of variance reveals no significant difference in insurance premiums across the three commissioner types ($F = 1.2$).

Table 1. Descriptive Statistics

Variable	Definition	Mean	Standard Deviation
AVERAGE	average 1987 annual automobile insurance premium per registered car (\$)	456	98.9
DEATHMIL	death rate per 100,000 vehicle miles driven in 1985	2.58	.547
COSTDAY	average patient charge per day in the hospital in 1986 (\$)	678	146
URBAN	percentage of the state that is urban	67.5	14.1
RAL	average number of registered automobiles per registered driver	.842	.104
NOFAULT	dummy variable; 1 = no-fault insurance system, 0 = otherwise	.340	.479
INCOME	per capita income in 1986 (\$)	13870	2205
MINIMUM	minimum amount of insurance required in 1986 (\$1,000's)	67.0	19.9
UNINSURED	dummy variable; 1 = mandated uninsured motorist coverage, 0 = otherwise	.120	.328
ELECTED ^a	dummy variable; 1 = insurance commissioner is elected for a fixed term, 0 = otherwise	.220	.418
FIXEDAPT ^a	dummy variable; 1 = insurance commissioner is appointed for a fixed term, 0 = otherwise	.220	.418

N = 50

^a The omitted category in this series of dummy variables is those states where the insurance commissioner is appointed for an indefinite period of time.

To examine the role of the commissioner type within the context of the automobile insurance market, we estimated a multiple regression equation. Specifically, the goal is to identify if commissioner type affects average state automobile insurance premiums once the state-specific demand and supply characteristics (described earlier) are held constant. The parameter estimates for this regression equation appear in Table 2.

Table 2. Parameter Estimates for the Regression Equation with Average Annual Insurance Premium per Registered Automobile (AVERAGE) as the Dependent Variable (t-statistics in parentheses)

Independent Variables	Estimated Coefficients
CONSTANT	147 (1.09)
DEATHMIL	44.2 (2.09)**
COSTDAY	.0561 (.753)
URBAN	.930 (.979)
RAL	-.393 (-3.96)**
NOFAULT	35.9 (1.51)
INCOME	.0319 (5.12)**
MINIMUM	-.325 (-.665)
UNINSURED	-5.96 (-2.207)
ELECTED	-15.2 (-5.78)
FIXEDAPT	-5.80 (-2.63)

$\bar{R}^2 = .577$
F = 7.70**

** significant at the .05 level.

The overall performance of the multiple regression equation as measured by the F-statistic indicates that the equation is statistically significant ($p < .05$). Several of the supply and demand variables contribute to the equation's performance. On the supply side, both the death rate per 100,000 vehicle miles driven (DEATHMIL) and the number of registered automobiles per licensed driver (RAL) have statistically significant coefficients associated with them. For every one percent increase in the death rate in a state, average automobile insurance premiums rise by \$44.20, holding other factors constant. Conversely, if the ratio of registered automobiles to licensed drivers in a state increases by one, automobile insurance premiums decline by \$393, *ceteris paribus*. Both of these coefficients are consistent with their hypothesized relationships to automobile insurance rates.

Among the demand variables, only the state's per capita income (INCOME) is statistically significant. The estimated coefficient indicates that for every \$1,000 increase in per capita income, insurance premiums rise by \$31.90, holding other factors constant. This significant relationship may reflect several income-related considerations that alter the demand for automobile insurance. An increase in income may lead consumers to (1) engage in greater risk avoidance, (2) accumulate more assets that must be protected, and/or (3) purchase more expensive automobiles that require greater amounts of insurance. Unfortunately, it is impossible to identify the relative strengths of these considerations in the current analysis.

The equation shows no support for the hypothesis that the political environment, as measured by insurance commissioner type, affects automobile insurance premiums. The estimated coefficients associated with the two dummy variables, ELECTED and FIXEDAPT, are both small and statistically insignificant. It would appear that method of commissioner selection has little bearing on automobile insurance premiums, *ceteris paribus*. This finding is supported by past studies that have examined the role of commissioner selection in other publicly regulated industries such as electricity and telephone service.

DISCUSSION AND CONCLUSIONS

This investigation of the benefits of regulatory reform for consumers has focused on how method of state insurance commissioner selection affects automobile insurance premiums. Before trying to draw any implications for consumer policy, this study's limitations should be recognized. First, altering commissioner selection methods and term length are only two means by which regulatory reform might be achieved. The establishment of either state-funded insurance consumer counsels or consumer-funded citizen insurance boards may be more effective in representing consumer interests. In addition, consumer advocates have long called for the repeal of the McCarran-Ferguson Act under which insurance companies are granted immunity from federal antitrust laws when they collaborate in setting state insurance rates.

A second limitation concerns the outcome measure used in this study--average automobile insurance premiums for private vehicles. While premiums are obviously important, there are other aspects of insurance company behavior that are also important to consumers. In particular, consumers want to be sure that they will receive coverage for which they have paid. Some state commissioners may vigorously prosecute insurance companies that engage in "bad faith" actions (i.e., deny or delay legitimate claims for coverage), while other commissioners may set a climate in which bad faith actions go unpunished. Furthermore, commissioners may have more of an impact on the distribution of rates among insurance consumers than on the overall level of rates. For example, elected

commissioners may favor urban consumers at the expense of rural consumers. In short, a full understanding of the relationship between regulatory policies and consumer welfare in the automobile insurance market requires outcome measures beyond the one used in this study, namely, average automobile insurance premiums.

Third, a host of supply and demand factors could conceivably affect insurance rates in a given state. This study included only some of these potential influences. In particular, the death rate per mile driven was used to capture an array of factors that influence the likelihood of accidents in a given state. Data exist for some of these factors (e.g., presence or absence of mandatory seat belt use laws) but not for others (e.g., amount, type, and location of alcohol consumption). Future studies might attempt to better specify the role of supply and demand variables in the determination of state-level differences in automobile insurance premiums. Nevertheless, the adjusted R^2 of the equation used in this study is moderately high (.577), one indication that many of the relevant supply and demand factors were incorporated.

A final and major limitation of the present study involves its use of a cross-sectional research design. Not only does the examination of insurance rates in a given year limit the number of variables that can be included in the analysis (due to degrees of freedom issues), but the cross-sectional design raises questions of causality. In particular, had we found that rates were higher in states with elected commissioners, one might ask whether elected commissioners "go easy" on insurance companies (perhaps in the hopes of obtaining campaign contributions) or whether states with high rates shift to an elected commissioner as a means of lowering rates in the long run. Accordingly, one might examine rates in a given state before and after changes in the method of commissioner selection. However, such changes have historically been rare and occur for a variety of reasons, and one is also left with the problem of controlling for all other potential longitudinal influences on insurance rates.

Despite the limitations of the study reported here, one may venture a number of policy implications. Combined with the findings of previous studies on the correlates of different methods of commissioner selection, it appears doubtful that the shift from an appointed to an elected insurance commissioner will yield any noticeable improvements for consumers, at least not in their premiums. Either different regulatory reforms or policies that directly influence supply and demand conditions are needed.

Automobile insurers have declared their common interests with consumers with regard to reducing the costs of insurance (Snyder 1989), and organizations have been formed to explore common ground (e.g., the Coalition for Consumer Health and Safety; the Consumer Insurance Interest Group). In particular, insurers believe that

consumers will be well served by policies that reduce the costs of litigation (especially liability reform), medical services, and automobile repair. In this regard, it is interesting that two measures included in this study were unrelated to state differences in automobile insurance premiums. One was the cost per day for hospitalization in a given state. The other measure was a state's percentage of urban residents, used as a proxy of automobile repair costs and based on the assumption that repair costs are higher in urban areas. It may be that these measures are too crude, especially the measure of urbanicity, but the absence of significant coefficients heightens the importance of determining the degree to which various factors affect the costs to insurers and, hence, should be of concern to consumers interested in reducing premiums.

Another noteworthy finding was the presence or absence of no-fault insurance laws had no bearing on state differences in premiums. As noted above, the dummy variable for the no-fault insurance combines three strong no-fault states with fourteen weak ones; thus the impact of the three strong laws might have been buried. Moreover, the value of strong no-fault laws may lie less in their ability to reduce premium costs as in their ability to provide generous benefits in a timely fashion (Hunter, 1990). Finally, the non-relationship between no-fault laws and premiums might be attributable to the cross-sectional nature of the data used in this study. To the extent that no-fault laws are passed in reaction to high rates, it may take several years before any premium-reducing effects of these laws are visible.

On the demand side, it is noteworthy that state requirements regarding the purchase of insurance had no discernible relationship to premiums. This finding suggests that state requirements do not serve as binding constraints on the decisions of most consumers. It also raises the question of whether the benefits of such requirements are outweighed by the costs to states of administering them.

In conclusion, the ultimate question for automobile insurance consumers is what changes in regulatory, supply, and demand factors will improve their welfare. Based on this exploratory study, changes focusing on the state insurance commissioner (method of selection and term length) hold little prospect of making consumers better off. Other regulatory reforms may hold more promise. For the moment, the most effective and feasible avenues to pursue involve identifying factors that contribute to the death rate per mile driven in a state. There are many potential cost factors, but they are not necessarily those which have been targeted by the insurance industry. For example, the main villains according to the insurance industry are liability laws that supposedly encourage frivolous lawsuits and skyrocketing medical costs. It may be, however, that actions to encourage seat belt usage and discourage alcohol consumption may be more effective in reducing

accident and fatality rates. In any event, both consumerists and industry representatives have broken from the gate in arguing for their pet reforms; research on which reforms actually improve consumer welfare needs to catch up with them.

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