

Insurance Firm Market Response to California Proposition 103 and the Effects of Firm Size

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Abstract

This study examines the effect of the November 8, 1988 California Proposition 103 passage on insurance company value. The findings indicate that Proposition 103 conveyed important new market information that is reflected in significantly decreased values for the total sample of property-liability and multi-line insurers. The significant impact on non-California insurers is attributed to the small firm effect. The insignificant impact on California companies is attributed to their large size and ability to diversify across insurance lines and across states.

Introduction

California voters, dissatisfied with high insurance rates, approved Proposition 103 on November 8, 1988. The key provision was an immediate 20 percent reduction of automobile, homeowner, commercial, and municipal liability insurance rates. Rates also were to be frozen for one year, unless the insurance commissioner determines that an insurer faces insolvency. Other primary provisions of Proposition 103 include: advanced approval by the insurance commissioner of all rate increases, repeal of the insurance industry's state antitrust exemption, allowing banks to sell insurance, and limiting the determinants of automobile liability rates to the insured's accident record. A major result of Proposition 103 was the movement of the insurance regulatory system in California from one of open competition to prior approval of rates.

Brostoff (1988) and Aschkenasy (1989), among others, recognize that consumer dissatisfaction with the insurance industry is spreading, and legislation similar to Proposition 103 is being considered in at least 14 other

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states. Some consumers believe insurance rates, especially those for auto insurance, are unfairly high.

The public interest theory of regulation (Needham, (1983)) assumes that regulation is a government response to public demands for the rectification of inequitable practices (primarily in price setting) by business organizations. Regulation in the insurance industry is an example of public interest regulation because its purpose is to enforce the requirement that rates remain adequate, reasonable, and fair.

Various researchers have examined the methods used for property-liability insurance rate regulation. Biger and Kahane (1978), Fairley (1979), and Hill (1979) proposed CAPM type models to determine fair rates of return for the property-liability insurance industry. Joskow (1973), Samprone (1979), Harrington (1984, 1987), and Grabowski, Viscusi and Evans (1989) analyze accounting data to determine the impact of open competition versus regulated ratemaking on insurer profitability. The findings of these studies are inconsistent with regard to whether open competition or regulated ratemaking serve to maximize insurer profitability.

Peltzman (1976) developed a general model dealing with the influence of regulation based on the premise that regulation creates a wealth transfer. Industry and special interest groups compete for the benefits of regulatory change. Under Peltzman's model, regulatory change often transfers wealth to insurers since their financial interests are greater than that of individual consumers. Consumers' financial interests or costs are directly related to their involvement in the regulatory policy change. Higher levels of consumer involvement are generally associated with fewer industry benefits from the regulatory change.

Proposition 103 provided short-term benefits for consumers. The most immediate attraction was the 20 percent reduction and freezing of automobile and other insurance rates for one year. Since consumers had such a large financial advantage from the enactment of Proposition 103, it is likely that the insurance industry suffered.

The purpose of this research is to examine the impact of the passage of California Proposition 103 on insurance stock values. It is hypothesized that the passage had a significant negative impact on property-liability insurers, especially those doing large volumes of business in California.

Fields, Ghosh, Kidwell, and Klein (1990) have examined California's Proposition 103. They found that for several days surrounding the election, insurance firms' stock values reacted negatively. The decrease in value is directly related to the proportion of the firm's revenues that are affected by the referendum. Profitable companies were found to have less negative effect. Szewczyk and Varma (1990) also analyze Proposition 103. Their study examines the effect of Proposition 103 on the common stock values of property-liability insurers around both the passage of the measure and the court decision upholding the rate rollback and overturning the insolvency provision. Their results indicate that shareholder wealth declined in response to both the 1988 passage and the 1989 court decision.

This study proposes to continue the Szewczyk and Varma (1990) and the Fields, Ghosh, Kidwell, and Klein (1990) studies by (1) expanding the sample size, especially for those firms which have insignificant California exposure, (2) separating insurers into property-liability and multi-line groups¹, (3) recognizing that industry and event clustering problems can be addressed by employing Seemingly Unrelated Regression, and (4) examining the firm size effect of Proposition 103.

Data and Research Methods

The sample is selected from those property-liability and multi-line insurance firms that filed disclosure statements with the Securities and Exchange Commission (SEC) in 1988.² Any firm with confounding events such as a proposed tender offer, litigation, stock splits, or takeover defenses is eliminated from the sample to control market distortion which may be precipitated by these events.³ Firms with more than 10 percent of their nationwide premium volume affected by Proposition 103 are considered to be heavily into the California market.⁴

Firms with only property-liability primary SIC codes form one sample. Those firms having property-liability and life-health primary SIC codes are classified as multi-line. Of the 41 property-liability firms, 26 have less than 10 percent of their nationwide premium volume affected by Proposition 103. The mean affected premium volume of these 26 firms is 5.5 percent. The mean premium volume of the remaining 15 property-liability firms heavily into the California market is 18.8 percent. Of the 32 multi-line insurers, 15 have less than 10 percent of their nationwide premium volume affected by Proposition 103. The mean premium volume of these firms is 2 percent. The mean premium volume of the remaining 17 California multi-line insurers is 14.2 percent.

Market reaction is measured using a Single Index Market Model. The unexpected portion of the daily market return is calculated individually and collectively for each sample. The sign, magnitude, and statistical significance of the sample excess returns indicates whether there is a market response to Proposition 103-related information.

When security returns follow a bivariate normal distribution, the expected rate of return may be expressed in terms of the raw return using a single-factor model:

¹In this study firms were subdivided into property-liability and multi-line to determine if companies writing only property-liability insurance were affected more by Proposition 103.

²The issue of thin trading was addressed by eliminating those firms which had insufficient trading activity to calculate reliable estimates of beta. This screen did not significantly reduce the sample size.

³Seven insurers were eliminated due to confounding events.

⁴The 10 percent premium volume was arbitrarily chosen in an attempt to distinguish those companies heavily into the California market. The information on premia was obtained from the 1989 edition of *The A.M. Best Reports, Property-Casualty Edition*.

$$R_{j,t} = a_j + B_j(R_{m,t}) + e_{j,t} \quad (1)$$

where $R_{j,t}$ is the daily return for security j at time t and is calculated as $R_{j,t} = \ln [(Price_{t+1} + Dividend)/Price_t]$; $R_{m,t}$ is the CRSP value-weighted index (a market proxy). The remaining components are estimated parameters:

a_j is a random variable which represents the return of security (j) which is independent of the market,

B_j , a constant, is a measure of the change in $R_{j,t}$ given a change in $R_{m,t}$, and

$e_{j,t}$ is the abnormal performance of the j^{th} security.

Estimated from the market performance prior to the passage of Proposition 103, these parameters become estimates of the anticipated return characteristics of the event period. The estimated returns in each sample are then compared to the observed daily return.

The event period return is determined by describing the characteristics of the return performance prior to the Proposition 103 vote. The expected daily return for each security is computed by observing the market behavior over a 100 trading days interval. Return observations begin 110 trading days before election day and continue until 11 trading days before ($t = -110$ to -11). This regression of security and market returns is used to estimate the parameters a_j and β_j in equation 1.

Following the procedure presented by Brown and Warner (1985), the research hypothesis is that there is a negative relationship between Proposition 103-related information and return responses. For each sample, the statistical hypothesis is that the mean excess return of each day in the event period (days -10 to 10) is equal to zero. The mean excess return for the sample is found by averaging (on an equally weighted basis) the returns for all insurers.

The relationship between Proposition 103 and the market response is tested for the property-liability, and multi-line samples. In addition, the impact observed among the property-liability and multi-line firms heavily into the California insurance market is compared to those which are not. A significant reaction implies that new information is contained in the passage of Proposition 103. The strength of the market reaction is indicated by the t value of the statistical hypothesis that the average daily excess returns are equal to zero. This test is conducted for the 21 day interval extending ten days prior to and after the election. The residual for each of the performance measures is calculated and the mean excess daily returns are presented. The event date is November 9, 1988, the day after the election.⁵

Results

Table 1 presents the market response to Proposition 103 for property-liability and multi-line firms. The statistically significant negative responses on

⁵The results of the election were not known before the markets closed on that day. Thus, the day following the election was the market's first chance to respond.

day zero for the sample of all property-liability and multi-line insurers indicates that Proposition 103 has a negative impact on both samples. The greatest impact is on the sample of all property-liability insurers.

Table 1 shows that in a few cases there are significant negative responses before and after the election. The prior election response is possibly due to investors' anticipation of passage. The negative responses after the election are possibly due to the assessment of what the election results will mean for the insurance industry, particularly in California. Investor uncertainty about the outcome of the lawsuit filed by insurers and the resulting immediate injunction against the implementation of rate control possibly led to the negative responses after the election. The small positive response on day 1 for all firms is possibly a result of investor correction for an overreaction on day zero.

Table 1
Percent Mean Excess Daily Returns by Types of Insurer

Day	All Property- Liability and Multi-Line N=73	All Property- Liability N=41	All Multi-Line N=32	All California N=32	All Non- California N=41	California Property- Liability N=15	Non- California Property- Liability N=26	California Multi-Line N=17	Non- California Multi-Line N=15
-10	-0.0027	-0.0044	-0.0063	-0.0050	-0.0012	-0.0088	-0.0018	-0.0016	0.0005
-9	-0.0058	-0.0113	0.0011	0.0011	-0.0099	-0.0009	-0.0173	0.0038	-0.0019
-8	0.0013	0.0081	-0.0075	-0.0049	0.0066	-0.0044	0.0154	-0.0053	-0.0099
-7	-0.0022	-0.0083*	0.0055	-0.0033	0.0026	-0.0128	-0.0057	0.0051	0.0060
-6	0.0034	0.0061	0.0001	0.0050*	-0.0008	0.0057	0.0062	0.0044	-0.0046
-5	-0.0097	-0.0151	-0.0029	-0.0061	-0.0112	-0.0003	-0.0236	-0.0112*	0.0064
-4	0.0076	0.0146	-0.0013	-0.0010	0.0159	-0.0028	0.0246	0.0005	-0.0034
-3	-0.0054	-0.0071	-0.0032	-0.0017	-0.0125	-0.0035	-0.0091	-0.0000	-0.0068
-2	-0.0053	-0.0070	-0.0031	0.0008	-0.0082	0.0014	-0.0120*	-0.00111	-0.0053
-1	-0.0006	0.0016	-0.0035	-0.0043	0.0048	-0.0078	0.0071	-0.0012	-0.0062
0	-0.0122*	-0.0156*	-0.0079*	-0.0030	-0.0193*	-0.0050	-0.0217*	-0.0013	-0.0154*
1	0.0080*	0.0105	0.0046	0.0059	0.0094*	0.0120	0.0096	0.0004	0.0090
2	-0.0083	-0.0043	-0.0134	-0.0052*	-0.0084	-0.0079	-0.0023	-0.0041	-0.0240*
3	-0.0055	-0.0094	-0.0006	-0.0068	-0.0038	-0.0146	-0.0004	0.0000	-0.0014
4	-0.0040	-0.0084*	0.0014	0.0006	-0.0063	0.0011	-0.0139*	0.0001	0.0029
5	-0.0125*	-0.0159*	-0.0083	-0.0028	-0.0176*	-0.0092	-0.0197	0.0028	-0.0209
6	-0.0042	-0.0056	-0.0024	-0.0039	-0.0032	-0.0074	-0.0045	-0.0000	-0.0042
7	0.0006	-0.0008	0.0025	-0.0021	0.0026	-0.0057	0.0019	0.0010	0.0042
8	-0.0063	-0.0093	-0.0023	-0.0004	-0.0094	-0.0060	-0.0112	0.0044	-0.0101
9	-0.0022	-0.0065	0.0032	-0.0050	0.0009	-0.0116	-0.0035	0.0006	0.0061
10	0.0007	0.0028	-0.0019	-0.0048	0.0043	-0.0100*	0.0102	-0.0002	-0.0038

* Significant at the .05 level.

Table 1 shows no significant impact on California property-liability or multi-line insurers while there is a significant negative impact on non-California firms. This finding is contrary to the authors' initial hypothesis. Approximately 90 percent of the insurers classified as heavily into California are large while non-California companies are relatively smaller. Thus, the issue of firm size must be addressed.⁶

The tendency of small firms to have greater risk-adjusted security returns than larger companies is referred to as the small firm effect. Klein and Bawa (1977) and Zeghal (1983) indicate that the availability of information may be the causal factor behind the small firm effect. Eddy and Seifert (1988) find that the abnormal stock price reaction to a dividend increase is greater for small firms.

Table 2 shows the results for larger versus smaller firms. The smaller insurance firms have significant negative responses on day zero. The large property-liability and multi-line firms have negative (but insignificant) responses on day zero.

The problem of event clustering which is inherent in this study is addressed through application of the Seemingly Unrelated Regression (SUR) technique. The results using the SUR technique are not substantially different from those obtained using the more traditional Ordinary Least Squares (OLS) approach.⁷

Conclusions

The results reported here indicate that for the sample of all property-liability and multi-line firms, Proposition 103 has a statistically significant negative impact on both. The sample of property-liability firms has the largest negative impact. Since they have the largest percent of premium volume in lines affected by Proposition 103, these findings are consistent with those of Fields, Ghosh, Kidwell, Klein (1990), and Szweczyk and Varma (1990).

Investors perceive Proposition 103 as a wealth transfer from insurers to consumers. Since consumers have such a large financial interest in the passage of Proposition 103, most benefits are realized by consumers.

The results using the SUR technique are not significantly different from those using the Ordinary Least Squares (OLS) technique. This finding is consistent with those reported by Malatesta (1986) and suggest the OLS technique is sufficiently robust to handle industry and event clustering problems without any adjustment.

This study finds no significant impact from Proposition 103 on insurers with heavy California involvement while non-California insurers have large statistically significant negative responses. This finding differs from Fields, Ghosh, Kidwell and Klein (1990), and Szweczyk and Varma (1990) due to a

⁶Large firms in this study are defined as those having annual premiums written (sales) over \$200 million. This divided both the property-liability and multi-line samples fairly even. This division of firms into approximately the smallest 50 percent and the largest 50 percent is similar to that done in research by Eddy and Seifert (1988) and Zeghal (1983).

⁷The SUR results are available upon request.

Table 2
Percent Mean Excess Daily Returns by Large Versus Small Insurers

Day	All Large Property- Liability and Multi-Line N=42	All Small Property- Liability and Multi-Line N=31	Large Property- Liability N=22	Small Property- Liability N=19	Large Multi-Line N=20	Small Multi-Line N=12
-10	-0.0043	-0.0001	-0.0043	-0.0045	-0.0002	-0.0012
-9	0.0010	-0.0176	-0.0004	-0.0239	0.0013	0.0007
-8	-0.0041	0.0105	-0.0047	0.0231	-0.0033	-0.0144
-7	-0.0007	-0.0048	-0.0056	-0.0115	0.0055	0.0054
-6	0.0038	0.0028	0.0067	0.0054	0.0018	-0.0026
-5	-0.0047	-0.0184	-0.0042	-0.0277	-0.0092*	0.0075
-4	-0.0006	0.0216	-0.0018	0.0336	-0.0002	-0.0031
-3	-0.0035	-0.0085	-0.0062	-0.0081	0.0019	-0.0117
-2	-0.0019	-0.0111	-0.0003	-0.0148	-0.0030	-0.0032
-1	-0.0016	0.0010	-0.0020	0.0059	-0.0028	-0.0048
0	-0.0018	-0.0299*	-0.0016	-0.0317*	-0.0014	-0.0187*
1	0.0058	0.0116	0.0094	0.0117	-0.0010	0.0151
2	-0.0089*	-0.0074	-0.0075	-0.0006	-0.0067	-0.0247
3	-0.0054	-0.0057	-0.0132	-0.0050	-0.0000	-0.0016
4	0.0001	-0.0112*	-0.0009	-0.0170*	-0.0001	0.0041
5	-0.0038	-0.0274*	-0.0034	-0.0303*	0.0014	-0.0245
6	-0.0036	-0.0052	-0.0076	-0.0033	-0.0046	0.0012
7	0.0003	0.0011	0.0023	-0.0045	0.0032	0.0014
8	-0.0024	-0.0128	-0.0065	-0.0125	0.0028	-0.0110
9	-0.0003	-0.0055	-0.0026	-0.0109	-0.0004	0.0094
10	-0.0037	0.0083	-0.0073	0.0145	0.0011	-0.0070

*Significant at the .05 level.

number of factors. The sample sizes and composition differ, the beta estimation periods differ, and the criterion used to define insurers heavily involved in the California market differ. The non-California firms, smaller in size, exhibit greater risk-adjusted security returns than the larger California firms. The abnormal stock price reaction to Proposition 103 is greater for smaller firms. Fields, Ghosh, Kidwell, and Klein (1990) found similar results when analyzing companies individually. They concluded that large California conglomerate firms are not affected as much as smaller firms. The insignificant impact on California companies is attributed to their large size and ability to diversify across various insurance lines and across political boundaries.

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