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AUTHORS	Richard Morris Glenn Wood Barbara G. Pierce
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Richard Morris (USA), Glenn Wood (USA), Barbara G. Pierce (USA)

Improvements in insurance consumer complaint ratios

Abstract

Various state insurance departments and the National Association of Insurance Commissioners compile complaint ratios for insurance companies. Aside from the obvious aid this provides consumers in deciding among insurance companies, the question arises as to whether the companies themselves take advantage of these reports. This paper examines whether or not insurance companies use complaint information to improve their customer service. It does so from two perspectives. First, do the complaint ratios tend to improve after a decline? Second, do they tend to improve when their ratios fall below those of comparable companies? It was found that there is a significant tendency toward improvement in both situations.

Keywords: insurance, customer service, complaint ratios.

Introduction

The National Association of Insurance Commissioners (NAIC) and state insurance departments have directed considerable attention to the problems involved with consumer complaints against insurance companies. The NAIC and most state insurance departments collect insurance complaint data and make it available to the public (and others) via the "consumer information source (CIS)," which is a national Internet database of insurance complaints (consumer source – https://eapps.naic.org/cis/). It provides a number of reports but the "complaint ratio report" is especially useful to consumers because it shows how a specific company's complaint ratio compares to the national complaint ratio in a specific year.

In addition to the CIS, a number of state insurance departments regularly publish complaint ratios to be used by consumers. For example, the state of New York publishes an annual ranking of automobile insurance complaints. Some regulators also use the data to screen companies for market conduct or even financial examinations (Chan, 1998).

Apparently regulators are very serious about complaints against insurance companies. The basic economic rationale for such interest is rather straightforward and obvious: there should be a mechanism for insurance consumers to register their complaints and these complaints should signal inferior service to other consumers. By making inferior service known to consumers, insurers should have an incentive to minimize policyholder complaints or at least should attempt to avoid an excessive number of complaints. Insurers with "bad" complaint ratios should have economic reasons for correcting or improving their poor ratios and as a result, insurance consumers should benefit by improved insurance service.

This economic rationale, however, breaks down if insurance companies have little or no regard for poor complaint ratios. Although it seems clear that insurers should be concerned about their complaint ratios, there is some evidence that this might not be the case. Some insurers have poor ratios year after year (http://www.jsonline.com/business/29334229.html). In fact, even a cursory perusal of the annual rankings of insurance complaints shows that some companies consistently have poor complaint ratios. The CIS data show the same picture. The implication is that these companies are not concerned about their poor ratios and may do little or nothing to improve their complaint ratios. Some could argue that insurers are concerned about poor complaint ratios but are incapable of improving them. This argument appears fallacious because the CIS data clearly identify the types of complaints, the insurance companies have detailed complaint information, and it is clear that some insurers make major improvements in their unfavorable complaint ratios. The prima facie case, therefore, is that insurers are concerned when they have "poor" complaint ratios and they take steps to improve these ratios.

Studies of consumer satisfaction occasionally gather data and often these studies suggest that insurers should be concerned about customer complaints. For example, a recent survey of 7724 randomly chosen respondents rated customer service for 140 companies from 14 major industries. Interestingly, of the 43 companies with the worst customer service ratings, 21 percent were insurers. Further, the three industries that dominated the worst ratings were: (1) communications; (2) banking and financial services; and (3) insurance (http://articles.moneycentral.msn.com/SmartSpen ding/ConsumerActionGuide/HowCompaniesWere Ranked.aspx).

The purpose of this article is to test the thesis that insurers are concerned if they have "poor" complaint ratios and take steps to improve them. The analysis in this study is based on data provided by the NAIC. The NAIC makes some data available to

the public, but does not generally make aggregated complaint data available to consumers and financial advisors. However, the NAIC will provide aggregated data to insurance companies and to researchers under certain circumstances. All the data in this paper, unless otherwise noted, were provided by the NAIC for research purposes (NAIC, consumer information source)[1]. Complaint data were analyzed for six lines of insurance for the years 2004-2006. The lines of business for study were:

♦ private passenger auto;
♦ homeowner's;
♦ group life;
♦ individual life;
♦ individual accident and health;
♦ group accident and health.

1. Hypotheses and results

1.1. Do companies improve after a bad year? An insurer might be concerned if its complaint ratio increases substantially from year to year or is "too high" compared to comparable size companies. In other words, a company might be concerned if the complaint ratio has increased, and/or the company might be concerned if the level of complaints is viewed as unacceptable. That is, a "bad" complaint ratio might be viewed as one that is increasing or it could be defined as one that is higher than some standard set by the company. In this section, the first criterion is examined.

To test the idea that a company might take steps to improve its complaint ratio after experiencing a "bad" ratio, a "bad" ratio was defined as one that had increased by 5% or more from the previous year. With three years of data, if a company's complaint ratio increased by 5% from 2004 to 2005, then 2005 would be labeled a bad year. Then a determination was made as to which of those companies with a bad year in 2005 improved their complaint ratio in 2006. In the private passenger auto line of business, for example, 67% of the companies experiencing a bad year in 2005 improved their complaint ratios in 2006, suggesting that there may be a pattern of improvement after a bad year.

To determine if there was a significantly higher proportion of firms with bad complaint ratios in 2005 that improved versus those that did not have bad complaint ratios in 2005, a test of two proportions was performed. The hypotheses tested are:

H_1: *The proportion of companies showing improvement from 2005 to 2006 is the same regardless of whether they experienced bad complaint ratios in 2005.*

H_{1a}: *The proportion of companies showing improvement from 2005 to 2006 is higher for those companies having bad complaint ratios in 2005.*

This test was performed on each line of business using a z-test on the difference between two proportions. Specifically, the following test statistic was calculated:

$$z = \frac{p_1 - p_2}{s_{p_1 - p_2}} \qquad (1)$$

and

$$s_{p_1 - p_2} = \sqrt{\bar{p}(1 - \bar{p})\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}, \qquad (2)$$

where p_1 – the proportion of companies showing improvement from 2005 to 2006, which had bad complaint ratios in 2005; p_2 – the the proportion of companies showing improvement from 2005 to 2006, which did not have complaint ratios in 2005; $s_{p_1 - p_2}$ – the standard error of the difference between the two proportions; n_1 and n_2 are the sample sizes of the two groups and $\bar{p}$ – the pooled proportion from both groups showing improvement from 2005 to 2006.

In addition, the test was performed on the insurance industry as a whole by combining the information from the tests on the individual lines. Because of the high variability inherent in very low numbers of complaints, the analysis was based only on companies whose number of complaints for each year was greater than ten. The results are shown in Table 1. In this table, the second column lists the number of bad complaint ratios (CR) for 2005 in each line of business. The next column is the proportion of those with bad complaint ratios that improve from 2005 to 2006. The next two columns list the number of firms with good complaint ratios in 2005 and the proportion of those that improved from 2005 to 2006. These firms act as a control group which can be compared to those with bad ratios. As shown in the table, the z-test statistic for the private passenger line of business is 1.785, with a p-value of .037. The null hypothesis will be rejected if the p-value is less than the significance level, α. Using the customary .05 α, the null would be rejected and it can be concluded that there was a significant improvement effect in the private passenger line of business.

Table 1. Improvements after a "bad" ratio

Line of business	# of bad CR's in 2005	Proportion improving	# of good CR's in 2005	Proportion improving	z-statistic	p-value
Private passenger	67	67.2%	249	55.0%	1.785	0.037[*]
Homeowner's	25	76.0%	109	53.2%	2.079	0.019[*]
Individual life	35	65.7%	71	47.9%	1.731	0.042[*]
Individual accident and health	39	56.4%	95	53.7%	0.288	0.387
Group accident and health	64	65.6%	137	59.1%	0.881	0.189
All lines of business	230	65.7%	661	54.6%	2.916	0.0018[**]

Notes: [*] statistically significant at the .05 level, [**] statistically significant at the .01 level.

It can be seen from this table that while the proportion improving was higher for those companies having bad complaint ratios in 2005 in five of the lines of business, only three, private passenger, homeowner's and individual life, had significantly higher proportions at the 5% level of significance. However, the industry as a whole showed significant results.

The sample sizes for group life insurance are too small to draw any meaningful conclusions and are not included in this and further analysis.

1.2. Do companies improve when they do worse than their peers? Taking the other approach, it can be reasoned that some companies might look at other similar companies as a means of deciding whether their complaint ratios need improvement. In looking at the complaint ratios of comparable companies, it is important to recognize the relationship between company size and complaint ratios. Table 2 shows the mean complaint ratio by quintile for each line of business. The term "quintile" here is defined by premium volume. A firm is in the first quintile if its premium volume is somewhere in the top 20% of premium volume. The insurance industry is very highly concentrated, so that the top quintile may consist of only a few firms. In the group life line, as a matter of fact, the largest company, Prudential

Insurance Company of America, did 21% of the premium in the entire group life line of business in 2006. There is a very definite relationship between size and complaint ratio, as seen in the table, and suggested by previous research by the authors (Wood and Morris, 2010). Larger companies tend to have lower ratios. This relationship is very strong and applies to all lines of business. Therefore, it is not appropriate to compare a firm's performance to all other firms in that line of business.

The approach used here is to look within quintiles and adopt the following criterion to determine if a company improved relative to other companies' complaint ratios. If a company's ratio is 5% higher than the mean for its quintile, then it is judged a bad ratio.

The hypotheses tested are:

H_2: The proportion of companies showing improvement from 2004 to 2005 and from 2005 to 2006 relative to similar-sized companies is the same regardless of whether they experienced bad complaint ratios in 2005.

H_{2a}: The proportion of companies showing improvement from 2004 to 2005 and from 2005 to 2006 relative to similar-sized companies is higher for those companies having bad complaint ratios in 2005.

Table 2. Mean complaint ratio by quintile

Private passenger		Homeowner's		Group life	
Quintile	Mean	Quintile	Mean	Quintile	Mean
1	0.130	1	0.125	1	0.013
2	0.251	2	0.151	2	0.023
3	0.332	3	0.238	3	0.027
4	0.312	4	0.252	4	0.023
5	0.514	5	0.522	5	0.289
Individual life		Individual accident and health		Group accident and health	
Quintile	Mean	Quintile	Mean	Quintile	Mean
1	0.032	1	0.090	1	0.081
2	0.038	2	0.231	2	0.097
3	0.042	3	0.226	3	0.079
4	0.076	4	0.248	4	0.117
5	0.269	5	0.687	5	0.182

As in the previous method, those companies with bad complaint ratios that improved were compared to the proportion of those companies not classified as having bad ratios that improved. Table 3 shows the proportions of companies in both categories that improved from 2004 to 2005 and Table 4 shows the same information for improvements from 2005 to 2006. As before, the analysis is done for each line of business and the industry as a whole. Also, those companies with ten or fewer complaints in any of the three years considered were eliminated from consideration.

Table 3. Improvements relative to similar size companies (2004 and 2005)

Line of business	# of bad CR's in 2004	Proportion improving	# of good CR's in 2004	Proportion improving	z-statistic	p-value
Private passenger	51	90.2%	65	63.1%	3.348	0.000**
Homeowner's	41	90.2%	35	57.1%	3.322	0.000**
Individual life	19	68.4%	34	55.9%	0.895	0.185
Individual accident and health	42	69.0%	11	45.5%	1.453	0.073
Group accident	50	76.0%	53	58.5%	1.889	0.029*
All lines of business	203	80.3%	198	58.6%	4.724	0.000**

Notes: * statistically significant at the .05 level, ** statistically significant at the .01 level.

Table 4. Improvements relative to similar size companies (2005 and 2006)

Line of business	# of bad CR's in 2005	Proportion improving	# of good CR's in 2005	Proportion improving	z-statistic	p-value
Private passenger	38	71.1%	78	52.6%	1.898	0.029*
Homeowner's	31	71.0%	45	60.0%	.982	0.163
Individual life	19	73.7%	34	44.1%	2.074	0.019*
Individual accident and health	44	63.6%	9	44.4%	1.073	0.142
Group accident	44	81.8%	59	50.8%	3.241	0.001**
All lines of business	176	72.2%	225	52.0%	4.104	0.000**

Notes: * statistically significant at the .05 level, ** statistically significant at the .01 level.

Table 1, as discussed previously, suggests that companies try to improve after a bad year. Tables 3 and 4 give similar results. In Table 3, three lines of business yield significant results, and one of the remaining lines produces *p*-values fairly close to the .05 level of significance. Table 4 produces significant results (at the .05 level) in three lines of business. In both Tables 3 and 4, the combined results are significant at the 0% (to three significant digits) level.

Summary and conclusions

Using two different definitions of "bad" complaint ratios, statistically significant results were found at the .05 level in most lines of business (not including group life insurance, which had too few complaints to analyze). In several of the lines of business the results were significant at the .01 level. In addition, using both definitions, the results for the industry as a whole were highly significant. This is strong evidence that insurance companies are concerned about their complaint ratios and it seems probable that they take steps to improve their service if complaints increase.

Do the results tend to support the idea that companies try to improve after experiencing bad complaint ratios? The preceding analyses suggest they do. It cannot be stated with certainty that they use the complaint ratios themselves to decide if they receive too many complaints; they may use more informal measurements or they may use different criteria than used here for detecting improvements. Nevertheless, the results strongly suggest that insurers are concerned about getting too many complaints and that they do indeed take steps to improve bad complaint experience.

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