Auto insurance ratings impact on price and complaint index in West Texas

Neil Terry
West Texas A&M University

De'Arno De'Armond
West Texas A&M University

Melissa White
West Texas A&M University

ABSTRACT

Insurance company ratings, price, and complaint indices are important facets of the automobile insurance marketplace. The purpose of this study is to analyze the impact of A.M. Best auto insurance ratings on car insurance price and customer complaints. The data source for this study is the Texas Department of Insurance (TDI) website with a focus on the largest 10 counties in West Texas with a focus on the cities of Amarillo, Abilene, El Paso, Lubbock, Midland, Odessa, and San Angelo. The data compiled by TDI includes company names, annual sample rates, A.M. Best company ratings, complaint index, and pricing information. The results, from this manuscript, provide evidence supporting the notion insurance ratings matter, with respect to both price and complaint indices. Not surprising, A++ companies with the highest rating correspond with the highest statistical price. A+ companies appear to offer the best value with second highest rating at the lowest price across the five study ratings classifications. A++ and A+ ratings have a complaint index that is significantly lower than alternative rating classifications. In the middle, A and A- ratings earn a complaint index rank that is inferior to A++ and A+ yet superior to auto insurance providers with no ratings.

Keywords: auto insurance, consumer complaints, insurance pricing, insurance ratings

INTRODUCTION

The insurance industry revolves around contracts written and, more importantly, underwritten. Whether examining from a personal or corporate perspective, individuals and corporations alike are left with three basic choices in regard to their risk management and mitigation, avoid risk, retain risk, or transfer risk. From an individual consumer perspective, seeking and engaging insurance contracts actively transfers the risk of accidents, theft, natural disaster, and the like to an insurer granting said contract. Underwriting is a process whereby the insurer granting an insurance contract analyzes the risk propensity of the consumer. From this analysis, the company decides whether and how much risk to accept, designs a respective insurance program, and establishes premiums that are to be charged for coverage. Conversely, individuals need insurance not just in an effort to mitigate their own risk, but, rather in many states, it is mandated by law. Thus, consumers seek insurance companies to provide some degree and level of coverage based upon what the consumer can afford and what a firm is willing to provide in said coverage.

Business law concepts are seminal to risk management and insurance. Liability arises when, and if, a court imposes one individual to compensate another, thus, 'liability' insurance helps consumers ease the burden of litigation and potential judgement. Liability coverage differs by state in part due to the McCarran Ferguson Act of 1945, allowing states to impose their own limits of liability. Liability insurance alone does not limit overall liability and coverage depends on an individual's situation respectively.

Auto insurance contracts or policies are written on a specified basis grouped to the make, model, vehicle identification number, and use of vehicle (e.g., pleasure or work). Thus, a policy of liability insurance provides coverage to the individual policy holder and designees for bodily injury or property damage, medical payments coverage, uninsured/underinsured motorists, and physical damages respectively. In the state of Texas, the minimally essential coverage, or 'liability coverage' as it is more frequently known, is $30,000 coverage per person bodily injury, $60,000 maximum per accident, and $25,000 maximum property damage per accident respectively.

Additionally, beyond vehicle characteristics and specified use, consumer attributes such as credit rating and driving record may also enter risk modeling of specified rates to be charged consumers as premiums. Just as consumers entering into insurance contracts exhibit risk profile characteristics, so to do the companies entering those same contracts. While the consumer is assessed a level of risk based on their overall credit worthiness and driving record, an often over looked facet of granting companies (insurers) risk profiles is that of company ratings (ratings), annual rate premiums (price), complaint indices (complaints) and rate lookback periods (e.g., rate changes within the past 12, 24, and 36 months, respectively). The general consumer is possibly unaware of this risk reciprocity as specific company characteristics are seldom marketed.

The following work will examine the impact company ratings may have on the insurance marketplace with respect to price and complaint index. A roadmap for the work is as follows. First, a quick literature review is put forth. The second section offers a brief discussion of the study data. Section three offers an empirical evaluation comparing insurance ratings across price and complaint differentials. The final section offers study conclusions, implications, and extensions.

LITERATURE REVIEW

Insurance complaint and premium rate analysis, while plentiful, has had little empirical research exploring determinants. Even less research has been completed to show if an insurance company that has high rankings should respectively have lower complaint indexes. When evaluating the background of the insurance industry, it dates back to the mid-nineteenth century. State regulators tend to control regulation authority based on a general consensus that federal regulation is not the proper locus of authority when it comes to auto insurance regulation. The explicit regulation recognizing state authority is the McCarran-Ferguson Act of 1945, which recognizes state authority provided states continue to meet said responsibilities (Hollman, Murrey, & Homaifar, 1991; Hawken, Carroll, & Abrahamse, 2001; Eling, Schmeiser, & Schmit, 2007; Anderson, Heaton, & Carroll, 2010). At the present time in Texas, the Texas Department of Insurance (TDI) maintains a database to track, regulate, and provide transparency of insurance companies. The Commissioner of Insurance is an appointed position by the Texas Governor and oversees TDI. Financial rating, complaint index, and license status determine the rankings of insurance companies in Texas. TDI states that they categorize complaints into general categories that include claims and benefits, false advertising, and misrepresentation of policy (Texas Department of Insurance, 2019).

AM Best Rating Services, owned by A.M. Best Rating Services, Inc. (AM Best), is an independent rating company that rates entities based upon financial strength and creditworthiness. BCR, or Best's Credit Rating, can give a comprehensive forward-looking opinion as to whether a company is financially sound or lack thereof. AM Best makes the connection between insurers that are assigned a higher BCR, typically have less risk of becoming financially unstable. The opposite can be concluded from those that are assigned a lower BCR. It should be noted, however, that subjectivity is prevalent as the BCR reflects the opinions of AM Best and is not a predictor or determinant factor in the default probability in regards to any specific insurer or issuer (AM Best, 2019).

Complaint data gathered by Doerpinghaus (1991) was used as an indicator to determine if there was a direct correlation between insurance providers, their service quality, and the impact on rates. Data was pulled from California, Illinois, and New York. It was concluded that, in California, companies with higher premium rates that insured high-risk drivers, had an increase in complaints. Barrese, Doerpinghaus, and Nelson (1995) extended the research with evidence that independent agent insurers provide superior service. The empirical results support defenders of the independent agency system by showing expense ratios and persistency are, at least partially, attributable to better customer service. Auto insurer traits evaluated from the perspective of consumer complaints tend to reveal a pattern of high correlation between complaint indices and insurers that cover high-risk drivers (Doerphinghaus, 1991; Carson, McCullough, & Russell, 2005). The research also provides evidence supporting the notion that auto insurers with fewer complaints have a positive correlation with provider market share. Venezian (2002) examines the relation state insurance auto insurance complaint ratios as a measure of quality on a national basis. The results indicate fluctuation of complaints make it increasingly difficult for a consumer to make a factual decision informed by consumer data.

Furthermore, when evaluating brand sensitivity, loyalty, and anticipated regret (AR), Taylor (2013) concludes an inaction effect [regret] is apparent when an individual chooses a better insurer and has a bad service outcome, particularly when the price is perceived as better. Evidence is also presented showing how the combination of anticipated regret, examination of

costs, along with consumer satisfaction, drives loyalty behaviors (Castel, McCabe, Roediger, & Heitman, 2007). This would further give justification that there is evidence that costs and consumer satisfaction, or rather complaints, would predict and determine not only brand loyalty, but also entity ratings. Schwarcz (2010) examined insurance demand anomalies of which findings indicated are generally the result of consumer mistakes and may also reflect sophisticated decision making.

Parasuraman, Zeithaml and Berry (1988) first introduced the idea of SERVQUAL, a scale of measuring the difference between consumers' service quality expectations and their perceptions of actual performance. This scale is based on 22-items that all relate back to 5 principal qualities: tangibility, empathy, assurance, reliability, and responsiveness. The work is a precursor to academic research showing lower complaint ratios are significantly related to higher levels of perceived service quality (Stafford, Stafford, & Wells, 1998). Their findings also highlight the propensity of consumer tendency to rate service quality higher if they are unaware of their right to complain to a regulator (Stafford, Stafford, & Wells, 1998). It is these measurements that have a direct link to consumer loyalty and ultimately the companies' overall ranking (Zainudin, Shahnaz, Mahdzan, & Leong, 2018).

The previous research on automobile insurance, rankings, consumer satisfaction, complaint ratios, and brand loyalties provides a foundation to further explore whether the insured (consumer) should actually be evaluating the insurer (company). A company may have a higher complaint index based on a lower number of policies issued. For this reason, this research puts forth an adjustment by utilizing the 10 largest Texas counties in the sample focusing on companies that issue a critical mass of policies.

DATA

Data for this project were gathered utilizing the public Texas Department of Insurance (TDI) website. The data compiled by TDI includes company names, annual sample rates, A.M. Best company ratings, complaint index, and rates of change for the previous time periods, 12, 24, and 36 months, respectively. For the purposes of this project, annual sample rate is an estimate for an auto insurance liability policy based on a married, male consumer, aged 25-64, who drives a Toyota Camry only for pleasure with good credit rating and a clean 3 year driving record. Collision and comprehensive coverages are not included within the data and the Texas minimally essential coverage of 30/60/25 was utilized for the study.

A.M. Best ratings put forth on the website indicate financial strength and operating performance of each company. The ratings exist on a scale of A++ to C-, with A++ being a superior rating and C- indicating a company as a weak performer. A company that is not rated within the data by A.M. Best is denoted as NR. The data includes a listing of an index score of complaints as compiled by the Texas Department of Insurance. The complaint index indicates how consumers complaints filed against one company compare to the average of those filed against another. The average index assigned is 1.0, and, thusly a complaint index that scores less than 1.0 indicates the evaluated company received fewer complaints than average, conversely an average index above 1.0 indicates a company received more complaints than average. Rates of change for time periods denote any premium rate change within the respective time period, both positively and negatively, of the past 12, 24, and 36 months. The rate changes as provided the data in this study is the percentage amount an insurer has charged for its sample rates given the profile in the previous periods.

The state of Texas is very large, and a sampling of rates within the top 10 most populous counties in West Texas were utilized to gather the data. The cities comprising said counties in West Texas includes Amarillo, Abilene, El Paso, Lubbock, Midland, Odessa, and San Angelo. In all, 49 unique companies are represented within the 546 observations.

COMPARISONS OF RATINGS ACROSS PRICE AND COMPLAINTS

Do auto insurance ratings have a relationship with car insurance price or customer complaints? Theoretically, we anticipate companies with the highest A++ rating to charge a premium price in the market while minimizing complaints. In contrast, insurance companies with low or no ratings would appear to have less market power with respect to pricing and could be more subject to customer complaints. In this section we compare the ratings across five classifications with respect to price and complaint index. The sample is derived from 546 car insurance providers in the state of Texas with a focus on the West Texas region. The five rating classifications in the sample are A++ (highest rating), A+, A, A-, and no rating. The statistical methodology incorporates a nonparametric approach to comparing price and complaint index across the five different ratings. The study utilizes a rank-order nonparametric estimation method, Kruskal-Wallis, in order to avoid the assumption of a normal distribution (Conover, 1980). The random design of a Kruskal-Wallis test compares differences in rank order means across sample populations. The application in this study evaluates the null hypothesis that the k average price or complaint index for different ratings are derived from an identical distribution function. If, and only if, the null hypothesis is rejected, a comparative average rank is employed to determine multiple comparisons of price or complaint index differences across the various insurance rating classifications. Estimation method, applicable equations, and theoretical foundation for efficacy and power is put forth by Conover (1980).

The empirical approach yields T-values that are statistically significant (p-value = .0001), indicating a difference in both price and complaint index across the rating classifications for the sample of Texas auto insurance companies. Statistical summaries of average rank value of price and complaint index across the five rating classifications defined in this study are put forth in Table 1. Assuming an alpha level of .05, the empirical results from equation 6 indicate all rating classifications have three statistically different price outcomes (i.e., nominal values in the Price row and rank value in row 3 of the table) and three statistically different complaint indices (i.e., nominal values in the Complaint Index row and rank values in row 5 of the table).

The most interesting price result from Table 1 is the observation that A++ rating yields the highest price, as expected, but A+ yields the lowest price. Given the relatively high rating, one would expect the price of A+ rating to exceed A, A-, or companies with no ratings. Based on the results of this study, A, A-, and no rating all have a statistically equivalent price, exceeding the price of an A+ rating. It is surprising firms with no ratings offer a price that is statistically equivalent to companies with A and A- ratings. One possible reason for the pricing anomaly is to note consumers with less price sensitivity are likely to select insurance providers with A++ rating, while those with insurability issues may be forced into an option with a lower rating at a higher price. The net result is a situation where the best value insurance offering comes from A+ companies. A+ companies can further leverage their position as a best value option by taking advantage of the economies of scale associated with the corresponding market share increase by lowering average total costs through sales volume in an industry with significant fixed costs as part of structural operations.

Results for complaint index are consistent with expectations. Specifically, the A++ and A+ ratings have a complaint index that is significantly lower than alternative rating classifications. In the middle, A and A- ratings earn a complaint index rank that is inferior to A++ and A+ yet superior to auto insurance providers with no ratings. The most active complaint index resides with the auto insurance providers with no ratings. The results are not surprising but, combined with pricing information, provides additional evidence that A+ insurance is the best value in West Texas. In general, the premium paid for A++ is not worth the price, but the additional complaints associated with A, A-, and insurance that is not rated might be a concern. Consumers selecting A+ insurance appear to have access to the lowest propensity for complaint at the most affordable price.

CONCLUSION

Results of this study indicate insurance ratings matter with respect to both price and complaint indices. Not surprising, A++ companies with the highest rating correspond with the highest statistical price. A+ companies appear to offer the best value with second highest rating at the lowest price across the five study ratings classifications. A, A-, and insurance companies with no ratings have the same statistical price point, which is lower than A++ insurance companies but higher than A+. There are more A+ companies in the sample than any other classification (e.g., 140 companies classified as A+), providing support to the hypothesis A+ companies can further leverage their position as a best value option by taking advantage of the economies of scale associated with the corresponding market share increase by lowering average total costs through high sales volume.

Complaint index results are consistent with expected ratings correlation. A++ and A+ ratings have a complaint index that is significantly lower than alternative rating classifications. In the middle, A and A- ratings earn a complaint index rank that is inferior to A++ and A+ yet superior to auto insurance providers with no ratings. The most active complaint index resides with the auto insurance providers with no ratings. The results are not surprising but, combined with pricing information, provides additional evidence that A+ insurance is the best value in West Texas.

One limitation of the study is based on the data being derived from West Texas. It is possible there are nuances in the West Texas insurance market that are not applicable to other locations, especially on the east and west coast of the United States. Future research would be needed to determine if results in West Texas are consistent when applied to other regions or states. A second area of research is to contrast results from the largest 10 counties, in this study, with the 10 or 20 smallest counties in West Texas in order to see if there is consistent results in the region when comparing urban and rural communities. A third avenue for future research is to acknowledge the geographic size of Texas and see if the results of this study are consistent when one focuses on other regions across the state (i.e., North East, Central, or Southern Gulf).

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APPENDIX

TABLE 1: AM Rating Classifications Comparison by Price and Complaint Index (Nominal Values and Average Rank Order)

Variable	*A++ (n = 77)*	*A+ (n = 140)*	*A (n = 100)*	*A- (n = 129)*	*None (n = 100)*
Price	761	580	637	653	616
Price Average Rank	241**	310 -	265*	268*	266*
Complaint Index	1.01	0.78	1.39	1.19	2.71
Complaint Index Average Rank	231 -	215 -	296*	262*	369**

Notes:

*(1) ** Indicates highest average rank price and/or highest complaint index.*
*(2) * Indicates second highest average rank price and/or second highest complaint index.*
(3) - Indicates lowest average rank price and/or lowest complaint index.
(4) Some periods have average rank price and/or complaint index that is not statistically different from an alternative AM Ratings classifications.