

Pennsylvania's Zip Code Based Auto Insurance Study

Significant Findings

Background

In October 2016, the Pennsylvania Insurance Department (“Department”) embarked on a zip-code based study of personal auto insurance premiums and losses. The purpose of the study was to determine whether personal auto insurance premiums were commensurate with insured loss experience in zip codes with: 1.) large minority populations; 2.) low household incomes; and 3.) low percentages of college graduates.

The Department collected three calendar/accident years’ worth of personal auto insurance premium and loss data at the zip-code level from the state’s 20 largest personal auto insurance writers. (These 20 insurers write approx. three-quarters of the personal auto insurance market in Pennsylvania.) Data was collected for the following coverages: Bodily Injury, Property Damage, Medical Benefits (exclusive of Extraordinary Medical Benefits), Uninsured Motorists, Underinsured Motorists, Comprehensive and Collision.

Each of the 20 insurers also provided statewide loss development triangles on a per-coverage basis and each zip code’s incurred losses were developed to their ultimate level on a by-company, by-coverage basis using these development triangles before the data was aggregated for all 20 companies combined. This was done because insurance company claims development patterns differ substantially from insurer to insurer and it was therefore believed that the best method for combining loss data from 20 different insurers was to first develop each individual insurer’s incurred losses to ultimate level using the company’s own development triangles.

Earned premium was collected at current rate level to ensure that the most recent rates being charged in each zip code were analyzed, as opposed to rate levels that were dated and which may have changed significantly in certain zip codes.

Neither the premium nor the loss data was trended. The Department wanted to use actual data with as little judgmental manipulation as possible. The purpose was not to perform a ratemaking study; instead it

was to determine whether zip codes with certain demographic concentrations were being charged higher or lower average premiums without evidence of corresponding higher or lower insured losses.

In order to measure how premiums compare to losses in the zip codes being studied against the state as a whole, incurred losses developed to ultimate level were divided by earned premiums at current rate level both on a statewide basis and for the zip codes being studied (in the aggregate). This yielded a statewide “loss ratio” to which a comparison could be made for the zip codes being analyzed.

If the zip codes being analyzed have a lower loss ratio (in the aggregate) than the statewide loss ratio, this might indicate that the rates being charged in those zip codes are higher when compared to their auto insurance losses than the state as a whole.

Conversely, if the zip codes being analyzed have a higher loss ratio (in the aggregate) than the statewide loss ratio, this might indicate that the rates being charged in those zip codes are lower when compared to their auto insurance losses than the state as a whole.

Significant Findings

1.) Majority African-American Zip Codes

According to zipatlas.com, there are 28 zip codes in Pennsylvania with majority African American populations. These 28 zip codes encapsulated 489,603 earned car-years in the study. The study’s combined loss ratio for these 28 zip codes was 66.9%, which is higher than the study’s statewide loss ratio of 64.0%.

2.) Highest Hispanic Populated Zip Codes

Using zipatlas.com, the 25 zip codes in Pennsylvania with the highest percentage Hispanic populations were selected. These 25 zip codes encapsulated 687,915 earned car-years in the study. The study’s combined loss ratio for these 25 zip codes was 71.3%, which is higher than the study’s statewide loss ratio of 64.0%.

3.) Zip Codes with Lowest Median Household Incomes

Using zipatlas.com, the 25 zip codes in Pennsylvania with the lowest median household incomes were selected. (Zip codes listed with \$0 median household incomes were excluded.) These 25 zip codes encapsulated 98,740 earned car-years in the study. The study's combined loss ratio for these 25 zip codes was 67.3% which is higher than the study's statewide loss ratio of 64.0%.

As more than half of the above-mentioned zip codes had populations under 1,000 according to zipatlas.com, a second study was performed including the 25 zip codes with the lowest median household incomes and populations greater than 1,000. These 25 zip codes encapsulated 224,273 earned car-years in the study. The study's combined loss ratio for these 25 zip codes was 67.8% which is higher than the study's statewide loss ratio of 64.0%.

4.) Zip Codes with Lowest Percentage of College Graduates

Using zipatlas.com, the 25 zip codes in Pennsylvania with the lowest percentages of 4-year college graduates were selected. As many of these zip codes had low populations, only those zip codes with populations greater than 1,000 (according to zipatlas.com) were included among the 25 selected. These 25 zip codes encapsulated 168,496 earned car-years in the study. The study's combined loss ratio for these 25 zip codes was 67.4% which is higher than the study's statewide loss ratio of 64.0%.

Potential Need for Future Study

The Department had hoped to collect the requested loss data by the tort election of the claimant for the following coverages: Bodily Injury, Medical Benefits, Uninsured Motorists and Underinsured Motorists. However, industry representatives stated that loss data at this level of detail was not available and the Department therefore moved forward with the study without this information.

If there are credible and material differences in claim development patterns between limited tort claims and full tort claims, then developing each company's losses for these coverages based on the company's statewide (combined limited and full tort claims) loss development triangles may understate or overstate ultimate losses in zip codes where limited vs. full tort election differs significantly from the statewide averages.

Next Steps

The National Association of Insurance Commissioners' Auto Insurance Working Group is currently engaged in a national zip-code based study of personal automobile insurance affordability and availability. The Department is a member of this working group and will continue its participation in this national study.

The Department is committed to ensuring that a robust and competitive auto insurance market is available to Pennsylvania consumers and that no one is provided an insurance rate that is excessive, inadequate or unfairly discriminatory.