



RATING VARIABLES IN MARYLAND AUTO INSURANCE

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Thank you, Chairman Davis and committee members, for the opportunity to speak on this important issue.

My name is James Lynch. I am chief actuary and vice president of research and education at the Insurance Information Institute in New York. Our organization has for nearly six decades worked to increase public understanding of insurance – what it does and how it works. We provide objective, fact-based information rooted in economic and actuarial soundness. We do not lobby.

I am a Fellow of the Casualty Actuarial Society, the leading property/casualty actuarial organization in the world, and I serve on the society's board of directors. In my nearly 25 years as an actuary I have priced business for insurance companies and reinsurance companies and have supervised and completed rate filings throughout the country.

Today's hearing discusses a number of factors used to price insurance. I am going to focus on two – education and occupation – but note that the same actuarial and statistical rigor applies to them all.

First I want to take note of something I see all the time when I drive: yellow road signs. You doubtless see them, too.

Yellow signs, according to the Maryland Drivers Manual, "provide notice to road users of a situation that might not be readily apparent."¹ The road may start getting twisty soon, or become slippery in the rain. The sign may suggest how slowly to take a turn.

¹ Maryland Motor Vehicle Administration, "Maryland Driver's Manual," <http://www.mva.maryland.gov/resources/docs/DL-002.pdf> retrieved February 7, 2018.

That sign, well the word “sign” tells you – it’s a signal. If the sign weren’t there, you might not see what is coming. The results could be tragic.

In personal auto insurance, the price tries to send the same sort of signal. People at lower risk of an accident pay lower rates. People who pay higher rates are in greater peril.

This signal is a fortunate byproduct of the unique way auto insurance is priced. Rates are ruled not by the laws of supply and demand but by legislation that says rates should not be inadequate, excessive or unfairly discriminatory.

To avoid being inadequate or excessive, insurance is priced in a cost-plus manner. The rate is what the insurer expects to pay in accident costs, adjusted for the cost to administer the policy, taxes and a reasonable profit.

To avoid being unfairly discriminatory, rates are adjusted to reflect the risk each driver faces. People in rural areas pay less than people in densely populated areas. Their risk of an accident is lower.

As time has passed, insurers have gotten better and better at finding factors that accurately predict the chance of being in a crash. Education and occupation are two, and the academic literature confirms it.

For example, a study published in 2015 in the American Journal of Epidemiology found that death rates from auto crashes for Americans with less than a high school degree were significantly higher than those of college graduates.² As the presentation slide shows, after adjusting for other demographic factors, in 2010 for every 100 million miles traveled, 7.5 persons who lack a high school diploma or GED died in motor

² Sam Harper, Thomas J. Charters and Erin C. Strumpf, “Trends In Socioeconomic Inequalities in Motor Vehicle Accident Deaths in the United States, 1995-2010,” American Journal of Epidemiology, September 2015.

vehicle accidents. For college graduates, the death rate was less than one per 100 million miles traveled.

Academic research on occupation shows something similar. This slide has information about a New Zealand study that breaks occupation down into four numerical categories. It shows that for persons in the 20/29 occupation bracket, there were nearly three times as many driver injuries per 10,000 persons as other occupations. This is after adjusting for age, sex, drinking patterns and other factors, including level of education.³

That study notes its imperfections – as any study does – but it also cites studies with similar findings from Sweden, Finland, the U.K., Australia, Switzerland, Italy and Chicago, Illinois.

You don't have to go far, though, to find studies about the predictive qualities of education and occupation. In 2006 the Maryland Insurance Administration looked at a carrier using these rating variables and concluded that they are “predictors of loss,” that their use is “reasonably objective” and that they are reasonable from an actuarial perspective.⁴

Research on the issue continues today. Actuaries continually test and refine their rating variables. Regulators review them and the statistical rigor behind them. Then they face the most rigorous test – the real world.

³ G. Whitlock, R. Norton, T. Clark, M. Pledger, R. Jackson, S. MacMahon, “Motor vehicle driver injury and socioeconomic status: a cohort study with prospective and retrospective driver injuries,” *Journal of Epidemiology and Community Health*, 2003.

⁴ R. Steven Orr (insurance commissioner), “Geico’s Use of Education and Occupation in Underwriting,” Maryland Insurance Administration, June 9, 2006.

These variables keep passing the tests. They have been used for more than a decade, and the insurers that use them show no sign of abandoning them.

Like a well-placed road sign, rates are a signal to drivers of the risks they face. If drivers understand this, if insurers are permitted to use factors like those being scrutinized today, they will send the clearest signal possible to drivers.

Banning these factors obscures that signal, like a road sign behind a tree.

Thank you for your time.