# The proven relationship between credit-based insurance scores, actual driving behaviors, and insurance costs

Why do insurance companies use certain variables to price an insurance policy?

1. Insurers price policies based on expected future costs across a large, diverse population of drivers.

2. To insurers, there is no difference between variables as long as they are predictive of expected future costs. While some variables may seem more intuitive than others, they all serve the same purpose.

3. Insurers **are prohibited** from using variables like race, income, religion, and/or ethnicity, and prices are always tied to driving behavior and loss costs.

4. The best—and most fair—way to price policiesis to use a large number of actuarially sound and predictive rating variables. This leads to the most accurate pricing and assures that **no single rating variable has a disproportionate impact** on an individual's premium

But what do credit-based insurance scores have to do with driving behavior and underlying costs?

1. The charts below use company data[1] to show that credit-based insurance scores is very accurate in predicting future costs across a wide range of drivers.

2. The charts also show one reason why-drivers predicted to be higher risk by these variables are more likely to brake hard, which has been proven to result in more accidents. This measurement is driven by accidents, not by a policy holder's ability to pay for damage out of pocket without making a claim.
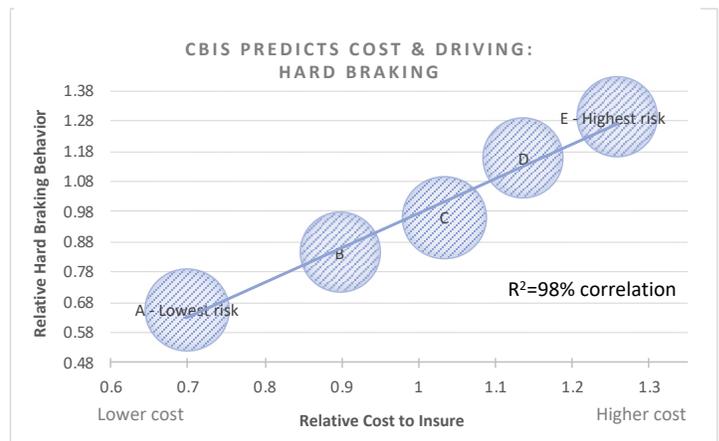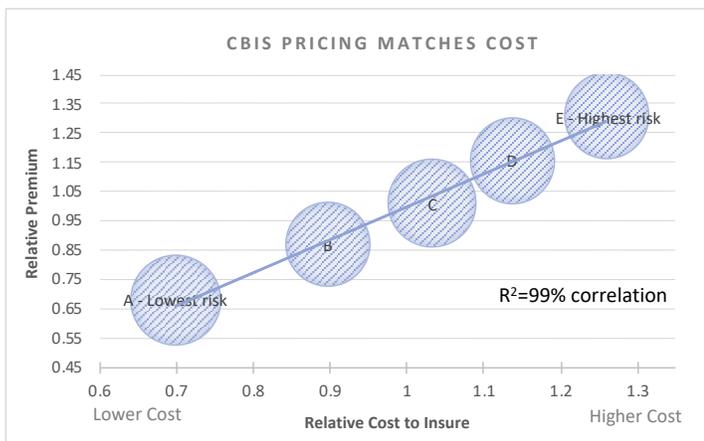
CBIS = Credit-Based Insurance Score

Cost to insure is measured as pure premium. Correlation is derived from the coefficient of determination, denoted R^2. It is the proportion of the variance in the dependent variable that is predictable from the independent variable. The closer to 1.00, the higher the predictiveness. Regarding the charts above, the left chart R^2 value is 0.9928, while the R^2 value for the right chart is 0.9818.

Bottom line: *Insurers price policies based on costs. When insurers are able to accurately and responsibly underwrite and price policies, consumers benefit with lower rates overall, more choices, and greater market and price stability.*

[1] Based on billions of miles driven by voluntary telematics participants from one large member company; experience captured from January 2017 – June 2019.