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National Association of Insurance Commissioners
2301 McGee Street, Suite 800
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"Why have my auto insurance rates doubled? I have never had an accident driving my piano."
Gwendolyn Anderson

Dear National Association of Insurance Commissioners,

I am an Associate of the Casualty Actuarial Society (1999) and a Member of the American Academy of Actuaries (2003). I have been a regulator for the North Carolina Department of Insurance since 2003. Credit scoring is legal in North Carolina, and I began reviewing proprietary insurance credit models in 2006 when the practice was relatively new. By statute, I am able to request support for credit scoring models. On many occasions, I have asked companies to make modifications to the models or temper the premium impacts. I would like to address the three issues the hearing is covering.

I. An explanation of what constitutes a credit-based insurance score.

The use of credit-based insurance scores may represent an innovative leap into the use of psychological evaluation of individual risk propensity in the pricing and underwriting of personal lines

Financial Credit Scores

Most consumers are familiar with financial credit scores, which are used to evaluate a loan applicant. The scores are usually given as three digit numbers based on a formula calculation using information in a credit report. They rank consumers from least likely to most likely to be able to meet debt obligations.

Consumers with financial savvy know what has to be done to achieve a "good" credit score: debt obligations must be met on time, the debt-to-income ratio must be low enough to reasonably meet existing obligations or to take on new ones sought; there should not be collections, delinquencies, derogatory marks, or bankruptcies.

Insurance Credit Scores

Insurance credit scores and their implications are vastly different from the financial credit score. They are not even intended to coincide with credit worthiness. Instead, various points are assigned to a selection of credit "habits" reflected in the credit reports. Consumers with "good" financial credit scores, who manage money well enough and drive safely, are not likely to suspect that insurance rates could double, triple, even quadruple based on their credit report information interpreted in novel ways. A few department store credit card purchases, applications for new VISA cards, a special use credit account to remodel the kitchen, or an automobile loan - all in good standing and all within the consumer's means - could drive insurance rates sky high. So could the choice to simplify and pay cash.

Insurance credit scoring is a stronger indicator of future experience for consumers with clear driving records than it is for those with record marks. If a driving record shows points, those points are indicative of a chance of future loss. A driving record with no points offers little information, and that is where credit scores best fill in the gaps. Since accidents are somewhat random, the credit score is thought to help in distinguishing truly responsible drivers from those who have avoided a crash by dumb luck.

The use of credit in insurance allows credit agencies and other scoring companies to offer their product to a much broader range of customers. Creating new formula calculations involves a relatively small investment considering that the credit reports alread2 Tc.E0sto offer their

II. An explanation of how insurers use credit-based insurance scores.

I believe that insurers calculate and use credit-based insurance scores:

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The three primary purposes of risk classification are to:

- protect the insurance system's financial soundness;
- be fair; and
- permit economic incentives to operate and thus encourage widespread availability of coverage.

The five basic principles that serve to achieve these purposes are:

- The system should reflect expected cost differences.
- The system should distinguish among risks on the basis of relevant cost-related factors.
- The system should be applied objectively.
- The system should be practical and cost-effective.
- The system should be acceptable to the public.

Certainly, mention of fairness, relevant-cost-related factors, and public acceptability, are all of higher order in the "Risk Classification Statement of Principles" than the single consideration of causality.

Homogeneity

Homogeneity is a simple concept describing similarity among risks. In order to group risks together for setting a rate, it is desirable to have certain commonalities. Yet, no two risks are precisely alike and likeness can be viewed in various ways. So, homogeneity is simply a "consideration" in ratemaking. It is important to consider the similarity of groupings, although there can be no precise guide as to how alike risks should be. Yet when groupings are not homogeneous, the basic principles upholding a sound rating system are violated.

I would caution model developers who lean heavily on correlation without understanding the data under review. I have found even many actuaries to argue that results are only important "as a group." This is partly true, given that individual experience is highly random. However, the group must be appropriate and not erroneous for a classification system

When I purchased a grand piano, I took out a loan and shortly afterwards refinanced. The two loans clearly impacted my insurance credit score, because upon renewal my automobile insurance rate was quoted as double. Paradoxically, my homeowners insurance premium with another carrier did not change upon renewal even though the value of contents increased. I told my auto insurance agent I never had an accident while driving my piano.

I realized I had been grouped with people that have a number of loans, many of which would be in tight financial situations. Clearly, this group of loan holders could include real estate investors and purchasers of yachts. Yet it could be surmised that the people in the greatest need of loans might create the heightened risk. These people may be less able to pay for losses "under the table," may be more prone to accidents due to financial stresses, or may be more inclined to pad claims or submit fraudulent claims given personal funds are short. Whether the reason for the higher losses is known or unknown, it is in the greater interest not to find out the underlying reason if a surcharge to those with financial difficulties would be received negatively. By pooling the groups inappropriately, the reason for charging higher premiums is masked, and there is no appearance of discriminating on the basis of wealth.

Truth in Lending

Like the World Trade Center towers that were designed in the 1960's to withstand the impact of the largest fully loaded passenger plane in operation at that time, the Truth in Lending Act of 1968 (TILA) was designed to protect consumers in credit transactions which existed at the time. It is no longer possible to physically explore the structural integrity of the World Trade Center towers because they were both taken down by fully loaded passenger planes.

In reviewing TILA for structural integrity, it would appear that Insurance Credit Scoring is not covered. Can it then be concluded that Insurance Credit Scoring does not violate consumer truth in lending rights? Keep in mind, the Insurance Credit Score produces a third party charge which was not a known use of credit at the time TILA was written. Instead of reviewing the precise wording of TILA to determine its application, it may be of more value to explore the intentions behind TILA, to evaluate what it had set out to do and what it had hoped to achieve.

Consumers need to be able to determine up front all costs associated with a loan, so they can effectively manage their finances. When a third party imposes unanticipated costs on the consumer for a financial decision, it oversteps the protections meant to ensure a stable financial future. Insurance is a meant to be a tool for enhancing financial stability, by limiting unforeseen losses.

Disparate Impact

One of the earlier credit models I reviewed was submitted by Allstate for private passenger automobile insurance rates. When I requested changes to the original submission, Allstate provided a second model which ignores consumer "inquiries" (applications for credit). I approved its use in North Carolina. About a year later, I reviewed a third model submitted by Allstate for a homeowners filing, which I also approved for use in North Carolina. More recently, Allstate filed to replace the latter model with the one approved in the private passenger filing, demonstrating it to be similarly predictive of homeowners insurance losses. The requested change in model was a result of the DeHoyos Settlement in Texas. Jose DeHoyos had claimed that Allstate's use of credit scoring had disparate impact on minorities, violating the Fair Housing Act. Allstate did not admit to any wrong doing, but agreed to use a different credit model in all states. No explanation was provided to me as to which aspect of the homeowners credit model was believed to have resulted in disparate impact. I do not know if the necessary changes to the homeowners model were pertinent to Texas only or to North Carolina as well. I was not able to

distinguish which characteristics in the homeowners model could result in disparate impact. I was not able to find a source that would willingly provide this information.

Secrecy in credit-based insurance scores

It is understandable that insurers would want to keep their scoring models a secret. The models are proprietary and may offer a significant market advantage. Companies do not want their models to be copied by other insurers. There may be concern that consumers will begin to change their credit habits in order to achieve a better insurance rate, lessening the insurer's ability to identify habits that are potentially linked to risk. Some credit models will not be effective in the long run if consumers are forewarned. Banks may begin to object to insurance credit scoring if the third-party charges for new credit diminish their markets; potential credit card customers may be dissuaded from "free" airline and hotel points offers after learning the of the possibility of markedly higher insurance costs.

Because secrecy is allowed, usually by statute, the public does not have any reasonable way of understanding how credit habits impact their premium rates. There have been few complaints against credit at the North Carolina Department of Insurance, and it is likely that lack of awareness prevents public outcry.

The acceptability of the use of credit partly rests on the well-established FICO score that applies to financial credit decisions. Most people who manage credit responsibly are able to obtain the loans they desire. It would seem that many people are offered too much credit, qualifying to purchase houses with monthly payments much higher than they would choose to make at a given income, and credit card limits that would be difficult to repay if fully utilized. It is natural for consumers comfortable with the financial system to presume that they will be similarly favored by insurance credit scoring, given that they have no way to learn otherwise. There is vast misinformation suggesting to consumers that good credit habits, in the familiar terms, will influence their premium rates positively, even while this is not the case.

I recommend that all insurance credit scoring models be made public. Consumers should be educated on managing finances responsibly. Everyone should be given the opportunity to plan for all costs associated with loans and other financial decisions. The reasons should not be provided in retrospect, but should be known to the consumer at the time they are able to modify choices in consideration of costs. Since driving records are not considered in ratemaking beyond three years, it seems reasonable that credit information should be similarly limited. It would not appear helpful for consumers to receive reason codes for credit choices they have no power to change for years to come.

In North Carolina, programs are undertaken to make people better drivers, such as "Click It or Ticket," which encouraged people to fasten their seat belts. People can learn to be better drivers, and can learn to better manage risks of all types. Such lessons are not learned under secrecy.

Basic consumer rights and credit-based insurance scores

Consumer rights should not be violated in any insurance rating system.

Consumers should maintain the right to defend themselves in court. Derogatory marks will influence FICO scores to an extent, but financial scores balance a large number of characteristics without giving great weight to an isolated event. Insurance credit scoring models may weight a single increment in a single characteristics strongly. A consumer should not have to pay its insurance company - an unrelated third party - a high monthly charge over a period of seven years, for contesting a charge in court. The court may be predisposed to rule partially in favor of each party. Note that a ruling in partial favor of the defendant will appear the same on a credit report as a flat ruling against the defendant.

Consumers should maintain the right to cancel a credit card at any time. The age of accounts can have a large impact on an insurance credit score. Age of accounts could also have a disparate impact on new immigrants, whose credit history in the United States would be shorter than most natives.

Consumer should have the right to keep credit limits low, not to carry credit, to pay cash, to maintain a credit balance, to seek credit or to accept offers of credit, and to choose any method of financing desired so long as debt obligations are honored as agreed. Consumers should be able to make financial choices without being charged a penalty by a third party. Such third party charges are unjustifiable, and impose a greater attack on financial freedom when the potential for such charges are hidden from consumers.

The cost of credit-based insurance scores

Consumers bear most of the costs associated with the inaccuracies in credit reports. It is their time and effort that is taken to correct report errors. Credit scoring is a fairly inexpensive method for insurers to classify consumers broadly in a manner that improves profits overall.

Fraud is cited as one possible reason that credit-based insurance works. People who commit fraud will tend to be dishonest and have marks on their credit records. While there are known indicators of fraud, there is not a definite way to distinguish people who commit fraud from those who do not simply by examining the credit report. The cost of

burden of shoplifting than most other honest consumers. If shoplifters could not be perfectly identified, it would only be fair to spread the losses evenly across all consumers as in scenario A.

	Number of Consumers	(A) Price Paid	(B) Price Paid	(C) Price Paid
Actual Shoplifters	100	115	265	155
Profile Only Resembles Shoplifter	200	115	100	**155**
Not Shoplifters	800	115	100	100
Average Price		115	115	115

Proponents of credit scoring claim that in the absence of credit scoring, "most" insurance consumers are subsidizing others and would benefit from eliminating such subsidies. The shoplifting example demonstrates reasons broad subsidies can be important to maintain when perfect classification is not possible.

Logical Error: A => B means B => A

In formal logic, "affirming the consequent" is an error in which the conclusion is assumed a consequence of the premises. It is also called a converse error. For example,

If a person is in London, then that person is in England.
A person is in England.
Therefore, that person must be in London.

This type of a converse error could be common in insurance credit scoring. Insurance credit scoring models will sometimes assign a charge that does not apply well to the entire grouping.

Mathematical, Statistical, and Actuarial Errors

The Statistical R-squared

Statisticians use linear regression to fit lines that establish correlation between variables. A measure known as R^2 is used to identify how much of the relationship between the two variables is explained, as opposed to random. Statisticians may rely heavily on the R^2 value in developing a credit model.

The statistician is able to choose the combinations of cells, which allows the data to be altered along the x-axis. An upward and downward movement in the data can be eliminated through combination to produce an upward sloping line. To statisticians, the upward sloping line may be desirable to achieve. It will produce a higher R^2 value, and the data content of individual cells will increase with the larger groupings. It proves the relationship that was set out to be proven. This ignores that credible groupings could also have been selected that would produce a line that moves up and down, with a lower R^2 value. A larger problem is that a line may be projected out to the sparse tail of the curve where the fitted linear relationship may not exist.

and insurance losses can be expected to result from such a system. Insurance should protect people through periods where they fall randomly at a higher risk of loss. No insurance system should exacerbate the situations that lead to loss. Truly, insurance is a fundamental aspect of financial planning. It ought to behave as such through a temporary economic crisis.

The present state of the economy may not be the first topic that should be raised. Insurance credit scores do not appear to function properly in a stable economy. Any change to the economy represents only one corner of the area which should already be under repair.

A Well-Constructed Credit Model

A well constructed credit model would have the following attributes:

1. non-proprietary, available to the public to view
2. large number of characteristics
3. small incremental premium impacts for any one credit event
4. limited impact of any one characteristic