

Alternatives to Credit Score

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Pinnacle Actuarial Resources, Inc.
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What To Do When You Can't Use Credit – Discussion Topics

- The Landscape
- Options for Responding
 - Premise – the Use of Insurance Scoring
 - What happened in Maryland?
 - Analysis
 - Recalibrate existing factors
 - Explore additional variables
 - Additional analysis techniques

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The Landscape

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The Landscape

- Insurance scoring bills
- FTC homeowners study
- Response to FTC auto study
- Court cases
- Anecdotal evidence
- Public perception
- Credit crisis
- **State actions**

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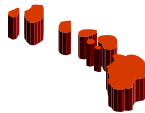


State Actions



California - Banned

Massachusetts - Banned



Hawaii - Banned



Maryland – Banned for Homeowners



Michigan – Awaiting Supreme Court Decision

Idaho – Credit Crisis Warning



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Blogs...

I am black and I do have a low credit score. I have never filed a claim in my life. I have been evicted from an apt before, i have filed bankruptcy for having wages garnished and student loans hounding me for the rest of my modest salary. I pay about 80% more for basic coverage on my car insurance than the average Georgian. repeat I have never filed a claim, no violations, i am over 30, I am married, I drive an economy car... I can't help to think why do I have to trust these car insurance companies using informtion gathering companies such as Choice Point. Choice point knows my race. They probably have a picture of me on file, I wouldn't be suprised. How do I know information is being passed from the choicepoints of the USA to the insurance companies. I definately believe they share qoutes . Everyone qoutes me the same. How can this be when they are supposed the figure rates in different ways. I am very frustrated and ready to sue. It is bull dung. They use credit reports but never report to credit. My credit score would be 100 points better if they reported all the 2 years of installments I paid on time. Its total BULLLL!

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- "It's unfair," says Joe Goodwin. When Goodwin's job became a victim of the recession, his credit score dropped nearly 100 points. "I got behind on bills for the first time in my life." When renewal time rolled around on his home and auto insurance policies, Goodwin says his premiums jumped 27%. "I had never filed a claim and was a 20-plus year customer."
- Goodwin says when he asked his insurance agent what prompted the spike in rates, he was stonewalled. "I got the runaround. It wasn't until I started shopping around and learned [from agents] that my credit score is factored into premiums that I connected the dots and realized I was being punished for my credit dropping."

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Options for Responding

- Understand Premise of Credit Scoring
- History
- Analysis
 - Recalibrate existing factors
 - Explore additional variables
 - Additional analysis techniques

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Premise – Why Does Insurance Scoring Work?

- People who manage their finances well also tend to manage other aspects of their lives responsibly – Insurance Information Institute
- People with low credit scores are more likely to file claims because they do not have the money to make the repairs – Investopedia.com
- Added stress of financial pressure – insurer
- Financial difficulty indicates a tendency toward more risk taking behavior – insurer
- Good insurance score demonstrates policyholder stability – insurer

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Biological & Psychobehavioral Correlates

- Psycho-behaviorial
 - Sensation seekers
 - Risk perception judgments
 - Risk appraisal judgments
- Behaviorial
 - Impulsive
 - Attention to detail
 - Focus
 - Responsibility

— Brockett, Patrick L. and Linda L. Golden. "Biological and Psychobehavioral Correlates of Credit Scores and Insurance Losses: Toward an Explication of Why Credit Scoring Works. 2007.

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What Happened in Maryland

- Insurance score used in auto and homeowners until....
- Banned from homeowners rating in 2002 legislative session
- Outcome
 - Removal of credit from rating plans
 - Some rate innovation
 - Result?

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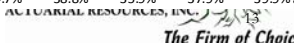
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Analysis of Maryland Market Share & Loss Ratio

Company	Rank	Year									
		1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
State Farm	1	23.4%	22.8%	22.4%	23.0%	21.7%	23.7%	22.1%	21.9%	21.6%	21.1%
Allstate	2	19.7%	18.9%	18.4%	17.4%	17.9%	15.7%	15.7%	16.5%	16.8%	16.6%
Travelers	3	6.9%	7.6%	8.3%	8.3%	8.4%	9.0%	10.6%	11.4%	12.4%	13.0%
Nationwide	4	10.3%	11.0%	11.1%	11.0%	11.0%	11.1%	11.3%	11.2%	11.0%	11.1%
Erie Insurance	5	7.2%	7.6%	7.8%	8.0%	8.4%	8.8%	10.1%	9.4%	8.6%	8.4%
USAA	6	4.9%	5.1%	5.3%	5.4%	5.6%	5.8%	5.8%	5.9%	5.9%	5.5%
Liberty Mutual	7	3.8%	3.6%	3.3%	3.1%	4.0%	3.9%	3.9%	3.9%	4.0%	4.2%
Chubb	8	1.9%	2.0%	2.1%	2.3%	2.5%	2.5%	2.3%	2.3%	2.3%	2.4%
Allianz of America	9	1.6%	1.6%	1.6%	1.7%	1.6%	1.6%	1.6%	1.6%	1.8%	1.9%
Brethren Mutual	10	2.1%	2.0%	1.9%	1.9%	1.9%	1.6%	1.5%	1.6%	1.4%	1.5%
Total		81.9%	82.2%	82.2%	82.1%	82.9%	83.8%	85.0%	85.6%	85.7%	85.6%

Company	Rank	Year									
		1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
State Farm	1	53.6%	76.2%	71.5%	82.7%	112.7%	84.4%	40.9%	38.5%	44.3%	42.9%
Allstate	2	46.7%	77.6%	63.3%	71.3%	81.5%	75.4%	33.0%	29.3%	37.9%	39.4%
Travelers	3	62.5%	86.4%	82.6%	72.6%	87.9%	69.7%	29.9%	32.9%	33.8%	34.5%
Nationwide	4	65.2%	76.5%	71.5%	70.7%	107.9%	81.9%	36.7%	35.1%	32.9%	40.3%
Erie Insurance	5	61.7%	53.4%	65.9%	73.6%	138.7%	96.3%	31.5%	31.4%	36.1%	38.4%
USAA	6	47.3%	77.4%	65.7%	56.4%	76.1%	78.1%	35.3%	32.7%	37.3%	44.0%
Liberty Mutual	7	69.5%	94.0%	73.2%	67.7%	76.2%	81.7%	44.1%	44.1%	38.8%	41.6%
Chubb	8	39.0%	101.8%	77.6%	63.0%	56.2%	112.6%	52.6%	32.8%	35.9%	23.1%
Allianz of America	9	44.4%	86.3%	59.1%	67.7%	75.2%	109.3%	64.7%	69.6%	29.5%	30.3%
Brethren Mutual	10	70.3%	81.2%	61.5%	69.0%	70.7%	101.8%	53.5%	37.0%	52.7%	43.7%
Total		56.6%	78.2%	71.0%	74.3%	97.5%	84.7%	38.8%	35.9%	37.9%	39.9%

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Recalibration of Existing Factors

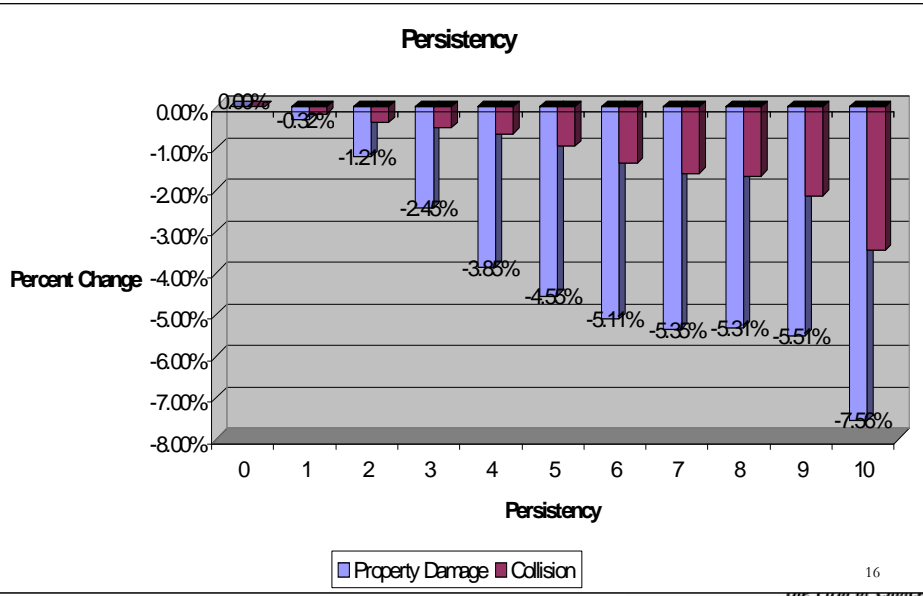
Recalibrate Existing Factors

- Insurance score is powerful indicator
- However, it does overlap with traditional and new variables being use to rate insurance
- When credit implemented, takes away some of predictive power of existing variables
- When credit is removed, use analytics to understand how this impacts other factors

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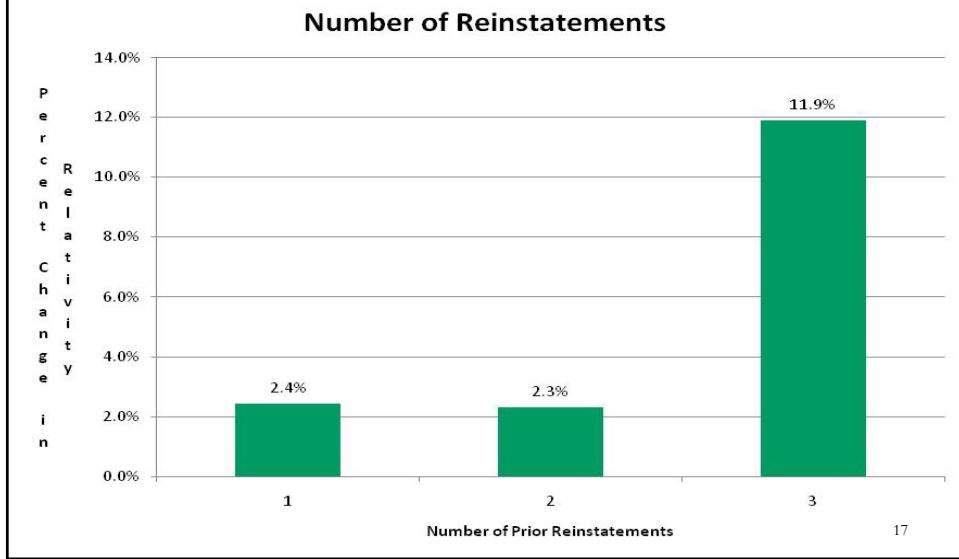


Recalibration - Persistency



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Reinstatement Activity



Use of Additional Factors

Use of Additional Factors

- Determine the significance of additional factors that may have been deemed insignificant when insurance score was included
- Consider factors not currently being used
- As a basis for consideration of new factors, focus on reasons that credit works

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Other Variables to Consider - Sources

Internal

- Rating
- Underwriting
- Agency
- Marketing
- Banking
- Affiliations
- Claims
- Application
- Billing/Payment history

External

- Credit bureaus
- Vehicle characteristics
- Vehicle history
- Usage based driving information
- Demographic data
- Distance to fire station
- CLUE
- Current carrier
- Vehicle systems
- MSB

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Slide 20

BL5 Distance to Fire Station?

Boison, LeRoy, 3/10/2010

BL6 Polk, HDLI or ISO - vehicle characteristics isn't a source

Boison, LeRoy, 3/10/2010

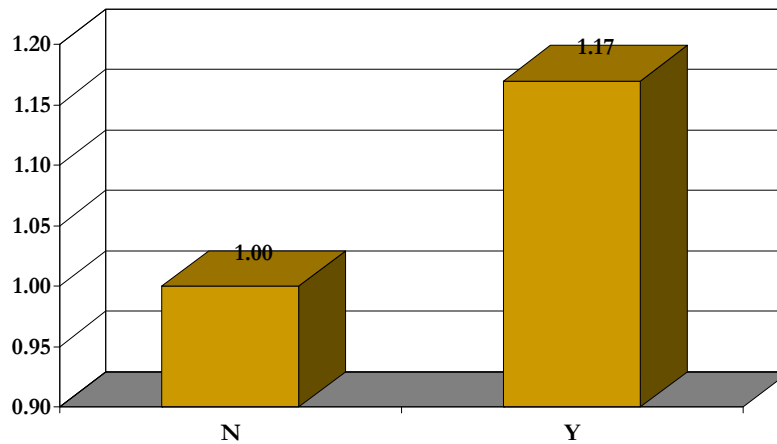
Other Variables to Consider

- **Responsibility**
 - Payment history with company
 - Payment history with other creditors
- **Low financial resources**
 - BI Limit
 - Umbrella limits
 - Presence of additional toys (boats, snowmobiles, golf carts)
 - Payment plan
- **Additional stress**
 - ?
- **Risk-taking behavior**
 - Accident and violation history
 - Age
 - Marital/family status
 - Motorcycle insured?
 - Behavioral profile
- **Stability**
 - Years insured
 - Years employed
 - Years at residence
 - Endorsement activity

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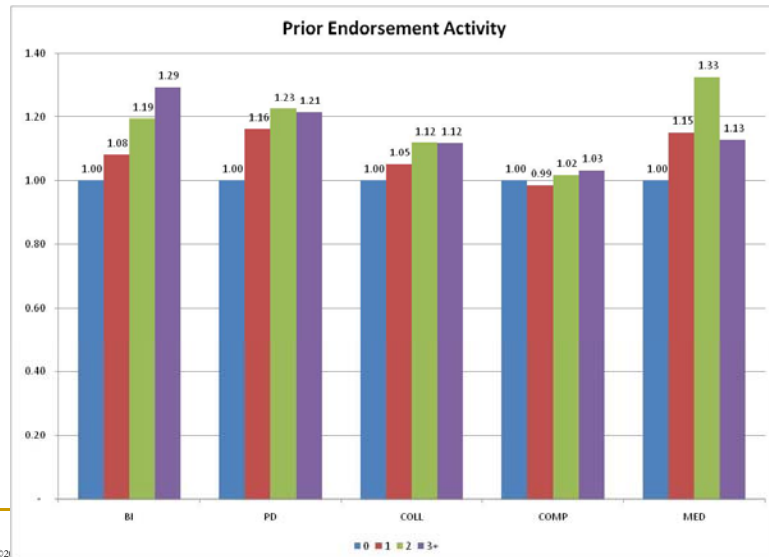
Presence of Late Payment



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Prior Endorsement Activity



Additional Analysis Techniques

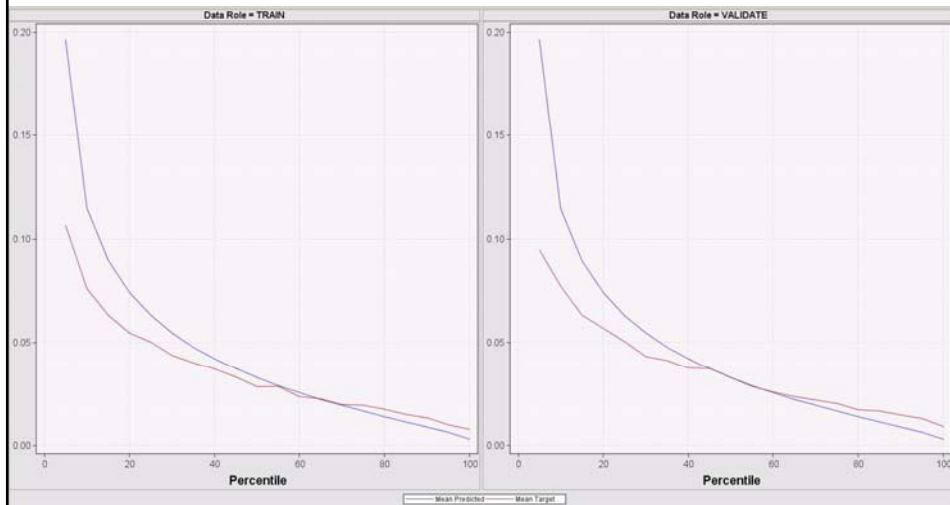
Additional Analysis Techniques

- When discussing predictive modeling for ratemaking, GLM's is the current standard
- GLM's are a huge step in the right direction
- GLM's do suffer from limitations
 - Assume a "linear" structure
 - Identification of interactions
 - Distinguishing between segments of business
- Why part of a credit alternative session?

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Example of GLM Prediction Issue



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Additional Predictive Modeling Techniques

Data Mining

- Cluster/segmentation analysis
- Principal components
- Association analysis

Predictive Modeling

- Decision trees
- Linear regression models
- Neural networks

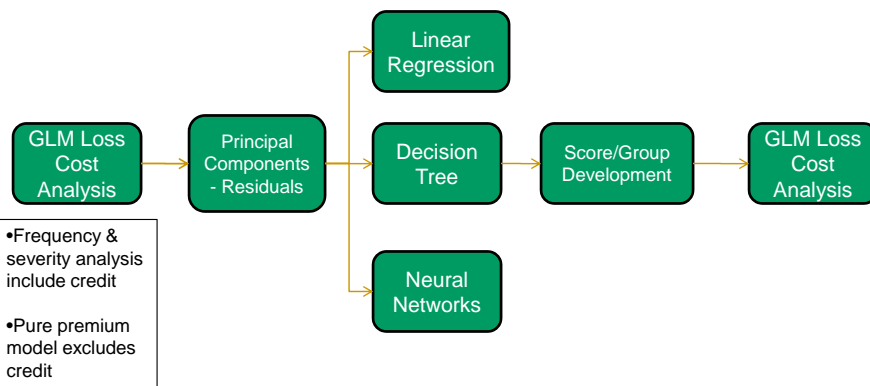
Application

- Direct analysis of frequency/severity/loss cost
- Analysis of residual based on GLM fit
- As part of a risk score development

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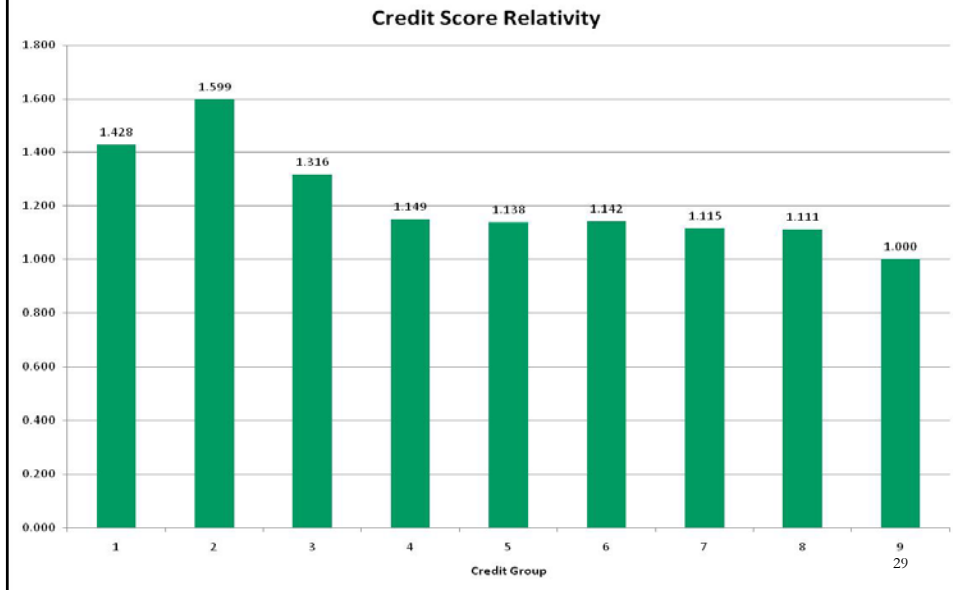
Example of Analysis Layout



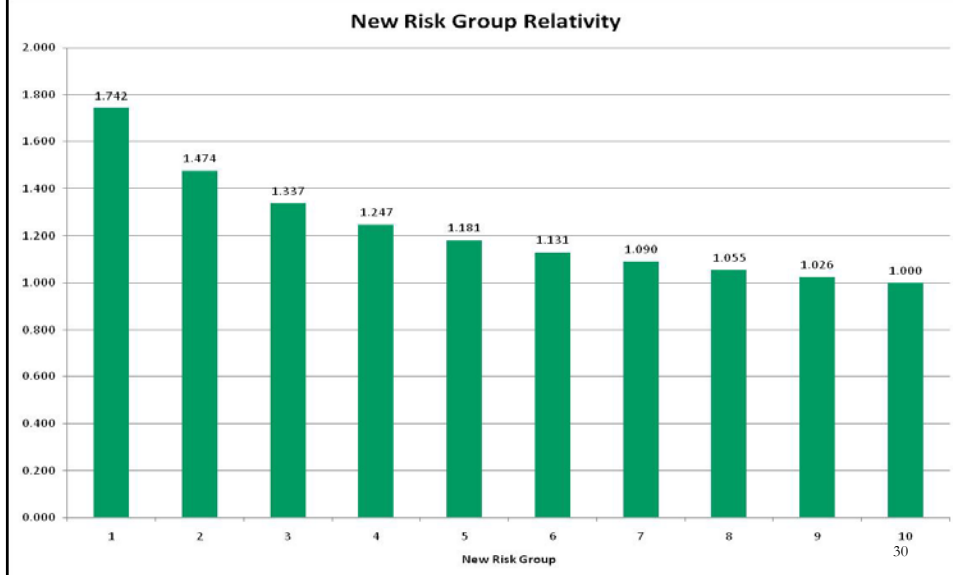
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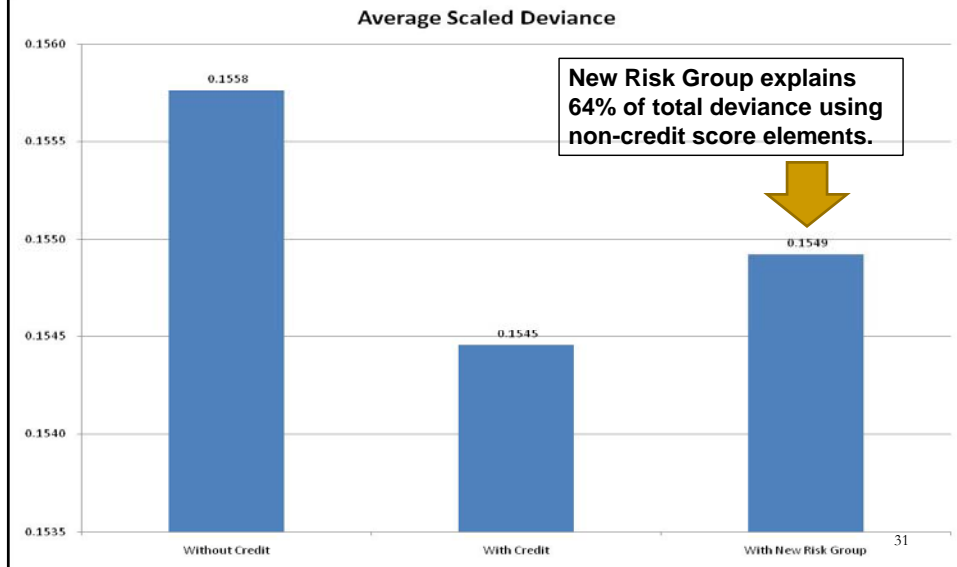
Credit Score Relativities – Normal Analysis



New Risk Group After Residual Analysis



Comparison of Models



Conclusions – When Life Hands You Lemons...



- There are markets that do exist without credit scoring
 - Allocation of premiums to individual insureds is less than optimal
- Make optimal use of what you currently have
- Find additional elements to make what you do better
- Use additional analysis techniques to enhance your analysis