

# Analytics and Regulation:

*Company Perspective:*

Presenting your Model to your regulator

CAR RPM 2014

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# Background: Safety Insurance

- Mid-Size Regional Independent Agency Carrier.
- Writes only in Massachusetts and New Hampshire.
- Mass. Private Passenger Auto is our largest line of business.
- “Managed Competition”:  
#2 (out of 19) Prior to...#3 (out of 30) Now.

## Massachusetts DOI – Bulletin 2008-17

### Policy Placement Requirements – “Tiering”

“An insurer’s policy placement decision shall rely on a risk value that is calculated based on pre-defined attributes and rules. The rules or formula for policy placement must operate on the risk attributes to produce a single risk value for the policy. This risk value should qualify for placement in one and only one...risk category at any point in time. An insurer’s policy placement rules and the risk attributes on which they are based will be examined by the Division prior to the effective date ...”

- Each risk lands in one and only one tier.
- Whenever we refine our Tiering, we have a face-to-face meeting at the Division.



# So...what did we present?

“Input” – What attributes are we using?

“One and Only One” – Does each risk get a unique rating factor?

“Results” – Is the model you used to derive your policy placement rating factor reasonable?

# Inputs and “One and Only One”

List of Policy Attributes									Number of	
									<u>Scenarios</u>	
1.	Account Credit	A = Yes	B= No						2	
2.	Longevity Score 1	A > 500	B <= 500						2	
3.	Longevity Score 2	A < 100	B = 100 to 199	C = 200 to 299	D = 300 to 399	E = 400 to 799	F > 799		6	
4.	Cancellation Score	A > 500	B <= 500						2	
5.	Multi-Car Policy	A = Yes	B= No						2	
6.	Merit Rating Score	A = 750 to 999	B = 500 to 749	C = 250 to 499	D < 250				4	
7.	Coverage Score	A > 500	B <= 500						2	
Combinations:									<b>768</b>	
Tier Definitions										
New Tier	Scoring Band	1	2	3	4	5	6	7	Current Tier Factor	New Tier Factor
1	10	A	A	A	A	A	A	A	0.95	0.94
2	3	A	A	A	A	A	A	B	0.96	0.98
3	11	A	A	A	A	A	B	A	0.985	0.975
766	5	B	B	F	B	B	C	B	1.03	1.04
767	8	B	B	F	B	B	D	A	1.03	1.04
768	5	B	B	F	B	B	D	B	1.03	1.04

# Results:

Is what you want to do Reasonable?

Score Band	Rank From	To	Reported 3- Year Loss Ratio	Indicated Avg. Tier Factor	Current Avg. Tier Factor	Proposed Avg. Tier Factor	Rate Effect
1	1	112	98.6%	1.517	1.014	1.049	3.4%
2	113	172	83.9%	1.291	1.009	1.049	4.0%
3	173	263	81.2%	1.249	1.017	1.047	3.0%
4	264	326	77.8%	1.197	1.016	1.048	3.2%
5	327	438	71.4%	1.098	1.000	1.000	0.0%
6	439	525	68.4%	1.053	1.000	1.000	0.0%
7	526	599	63.6%	0.979	1.000	1.000	0.0%
8	600	648	62.4%	0.959	1.000	1.000	0.0%
9	649	690	57.9%	0.890	1.000	0.990	-1.0%
10	691	718	54.3%	0.835	0.990	0.975	-1.5%
11	719	735	54.3%	0.835	0.990	0.960	-3.0%
12	736	742	50.9%	0.783	0.990	0.950	-4.0%
13	743	768	48.7%	0.749	0.988	0.940	-4.9%
			65.0%	1.000	1.000	1.000	0.0%