# Intelligent Use of Competitive Analysis

## Ratemaking and Product Management Seminar

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# Session agenda and objectives

- Today, we will discuss
  - Approaches to Competitive Market Analysis (CMA)
  - Key challenges in performing quantitative CMA
  - Analysis of “on-the-street” prices
  - Price integration

# Approaches to Competitive Market Analysis

# Insurers use various approaches to competitive analysis

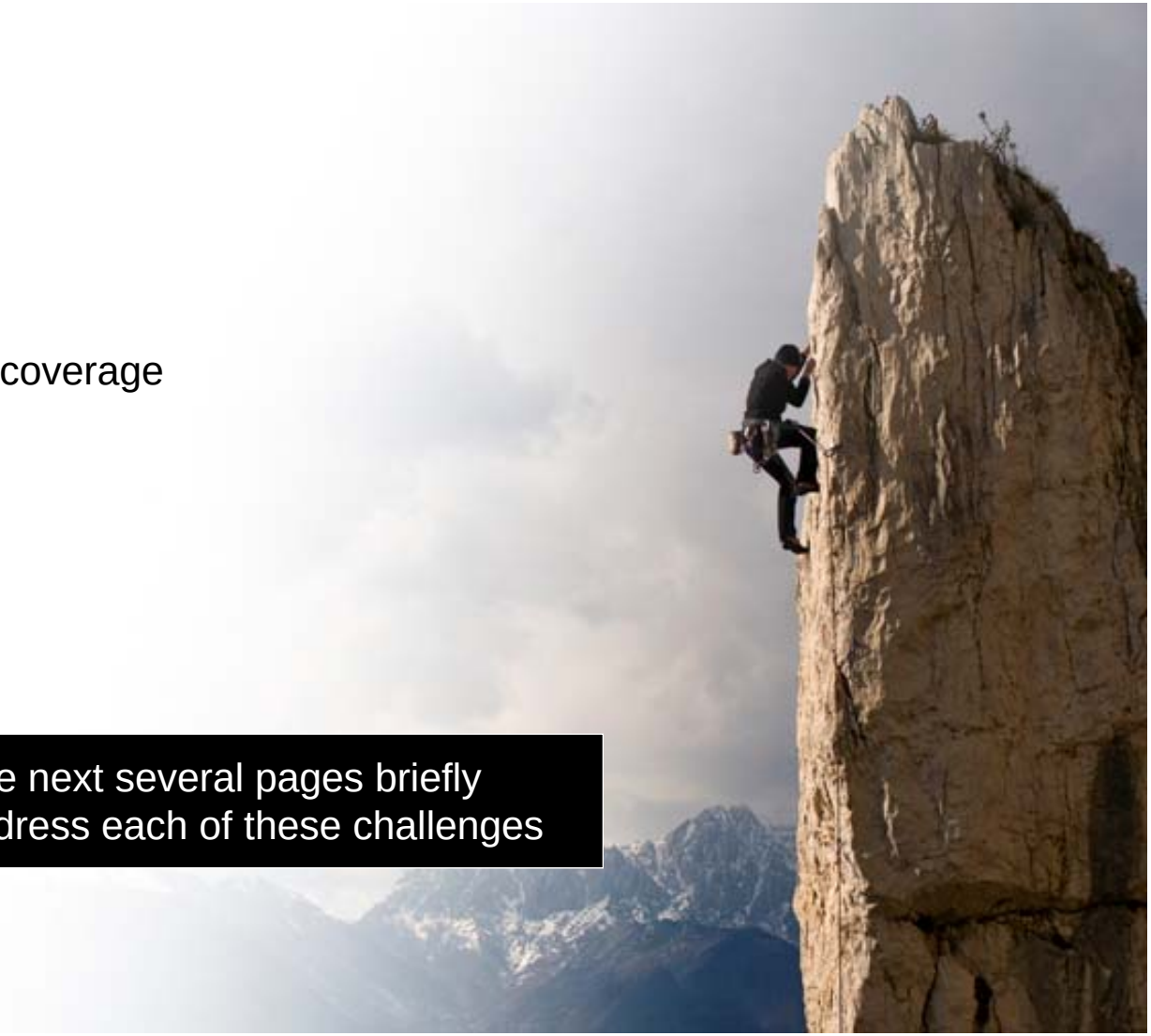

We will focus on the most sophisticated approach: calculation and analysis of “on-the-street” premiums using a comparative rating tool

# Addressing Challenges

# Although generally more effective, advanced CMA techniques pose certain challenges

## Key Challenges

- Comparative Rater
- Company selection
- Missing variables
- Alignment of product type and coverage
- Insurance score/tier



The next several pages briefly address each of these challenges

# There are a number of important considerations in selecting a comparative rater

- Are the rates for your company and the selected competitors already included in the tool?
  - If not, what are the additional costs to include?
  - What are the alternatives if additional cost is prohibitive?
- Does the software support batch rating in a timely fashion? How much computing power is necessary?
- Does the vendor have a tool to convert your exposure data into a format that the batch rater can use?
- What process does the vendor have in place to ensure accurate premiums?
- Does the platform accurately perform:
  - Driver assignment for personal auto?
  - Territorial assignment?
  - Tier assignment?
- What types of training and support services does the vendor provide?
- Does the vendor have appropriate marketplace knowledge to understand complex rate filings?

Although companies can decide to perform this work in-house, the effort has significant staffing and cost implications

# Selecting which competitors to include is important…and trickier than one might think

- The ideal is a mix of direct competitors and industry leaders
- The target market segment should be considered
  - Competitors targeting the preferred market may be different than competitors targeting the non-standard market
- Once you choose a competitor group, selecting which particular company to rate can be challenging
  - For example, Allstate writes auto insurance in at least 14 companies across the country
  - Which company writes new business?
  - Which companies are programmed by the comparative rater?
- Several ways to determining new business company for a group
  - Relative premium volume or premium growth
  - Agent feedback
  - Rate filing reviews
- Some companies write only package policies (personal auto and homeowners on the same policy). This should be considered in the company selection (impact on coverage alignment and underwriting selection criteria)

# In some cases, a company may simply not collect accurate data on a rating variable that a competitor uses

- Depending on the importance of the variable, how missing values are populated can materially affect the results
- External data can sometimes be used to fill in missing values
  - Census and other external data
  - Distributions obtained from competitor filings
  - Credit reports
- Care should be taken in how these variables are populated
  - Suppose a company does not collect data on a 55 & Retired Discount, but driver age is readily available
  - From census data and other publicly available data, a distribution of retirement can be obtained
  - However, constraints should be placed on the sampling approach to avoid illogical results
    - For example, a 25-year-old should not be assigned “retired”
    - A reasonable assignment may be
      - 0% if age < 55
      - 25% if age is 55-64
      - 100% if age is 65+

# Proper alignment of product/coverage is important in order to draw appropriate conclusions

**State X — Homeowners**

| Coverage/Feature | Competitor A "Standard" HO-3 Policy | Competitor B "Basic" HO-3 Policy |
|---|---|---|
| **Earthquake** | Included | Excluded |
| **Water Backup** | Excluded | Included |
| **Coverage A** | Actual cash value, with possible limited replacement cost coverage endorsement | Replacement cost coverage |
| **Coverage C** | 70% of Coverage A | 85% of Coverage A |
| **Identity Theft** | Included | Excluded |

- Alignment for auto should consider limits available, deductibles available, and inclusion of miscellaneous coverages (towing, rental, etc.)

# Creating an accurate approach to credit-based insurance scores and tiers is critically important

- Simplistic example of default insurance score/tier alignment

**Company A**

| Credit Group |
|---|
| 1 |
| 2 |

**Company B**

| Credit Group |
|---|
| A |
| B |
| C |
| D |

**Alignment**

| Company A | Company B |
|---|---|
| A, B | 1 |
| C, D | 2 |

- Alignment may be at the insurance score or tier level
- Key Assumption: Insurance score and/or tier are perfectly correlated between companies
- May still be a reasonable approach if resources are not available for insurance score assignment
- If the alignment approach is used, then do it at the insurance score level (if possible)
  - Calculate tier as a combination of insurance score and other variables (if applicable and tier determination rules are available)

# Alternative approaches to credit groups/tiers can increase accuracy (but can be costly and/or time consuming)

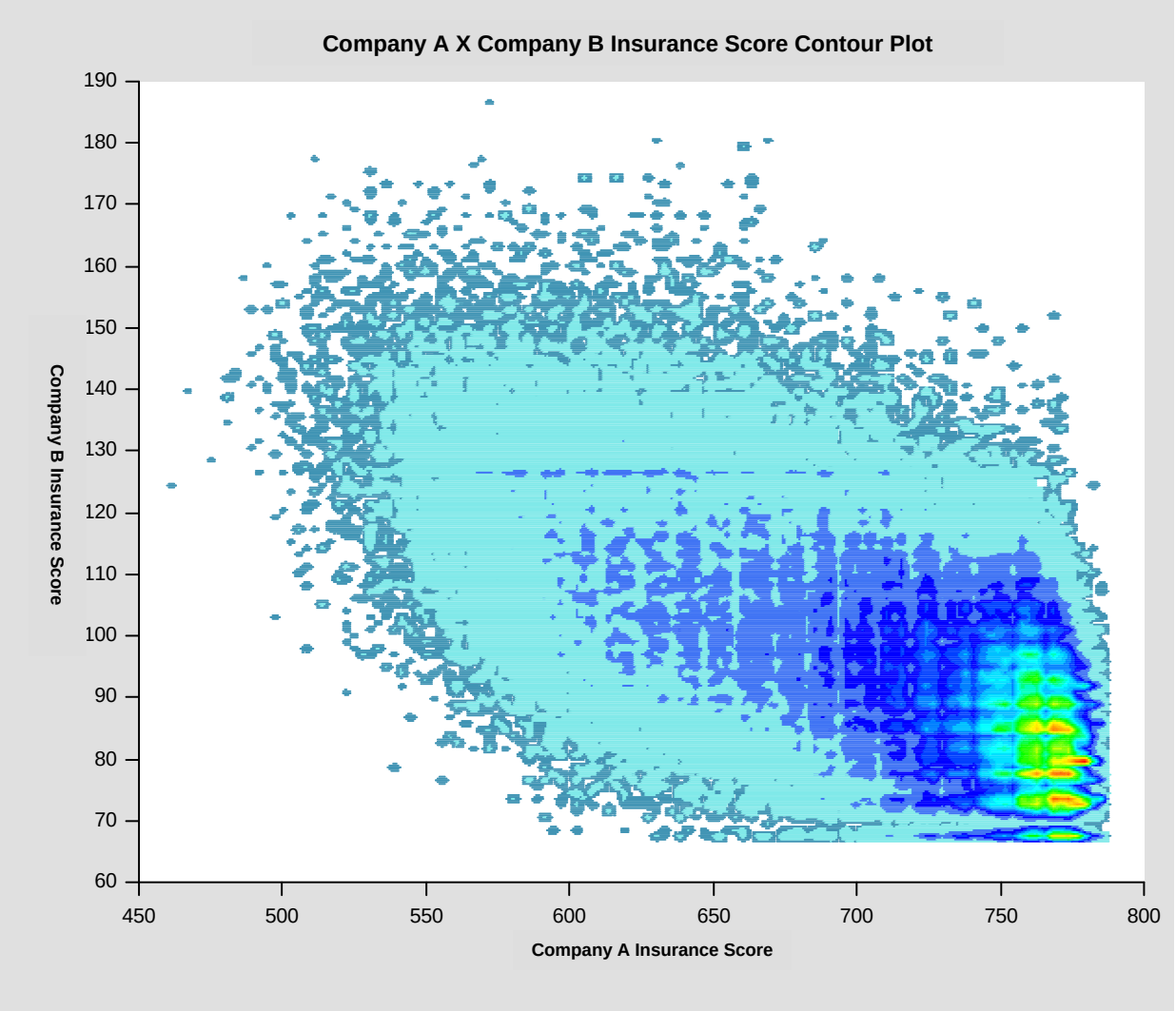
- Approach to insurance scores and tiers will vary by competitors
  - Competitors use different models for insurance score – vendor or proprietary
  - Some competitors use insurance score in combination with a number of other variables to determine tier
    - Two companies use same vendor model, but tier was very different
- Most accurate approach is to calculate the insurance score and/or tier for each competitor based on programmed competitor insurance scoring algorithms
  - Relies on publicly available information from rate filings
    - Identify model used – vendor or proprietary
    - Find model
    - Find tier determination rules (if not included in the manual)
  - Requires credit data
    - At the individual credit attribute level obtained directly from credit reports (TransUnion, Experian, Equifax)
    - At the summarized level (Fair Isaac or LexisNexis)
    - Possible to purchase the insurance score directly from the vendor for companies using a vendor model
  - Assumptions may still be necessary, depending on the data source and competitor(s)
    - Competitors use similar approaches to insurance score and tier between companies within the same group and across states

# Example for two Top 10 carriers in the U.S.

- "Company A" and "Company B" are personal auto insurers
  - Both are national writers with market share in the top 10 in most states
- Credit-based insurance scoring models
  - Company A uses a vendor model
    - High score is best (lowest risk)
  - Company B uses a proprietary model
    - Low score is best (lowest risk)
  - Models were found in publicly available filings
  - Models were programmed using actual credit data
  - No hits/no scores are excluded
- Tier is a combination of the credit-based insurance score and other variables for both companies

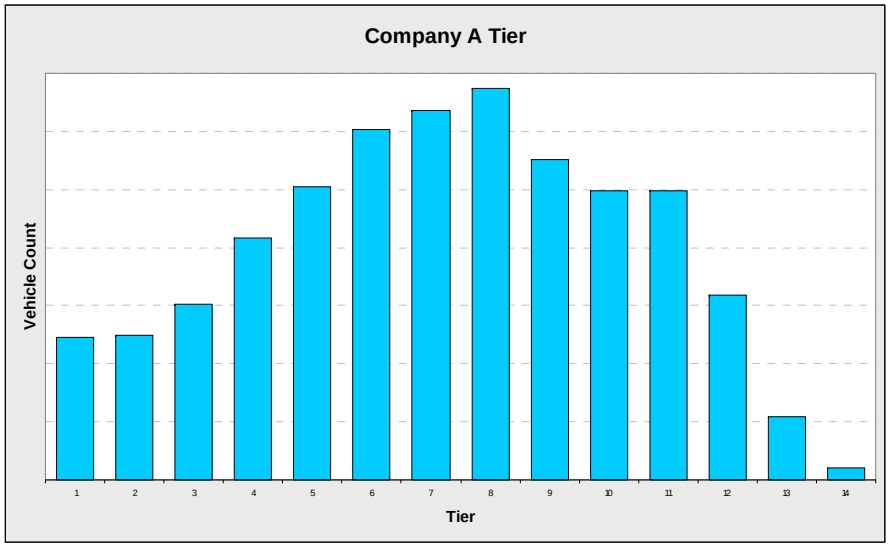
# Example: Insurance scores vary between competitors

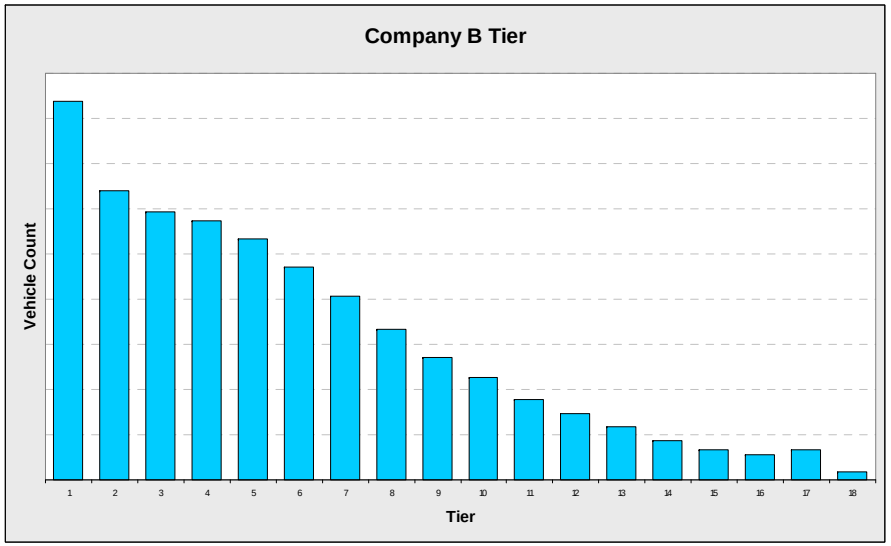
- Correlation between the insurance scores, but not perfect
- Expect diagonal line if models assessed risk in the same way



# Example: Companies take different approaches to tier

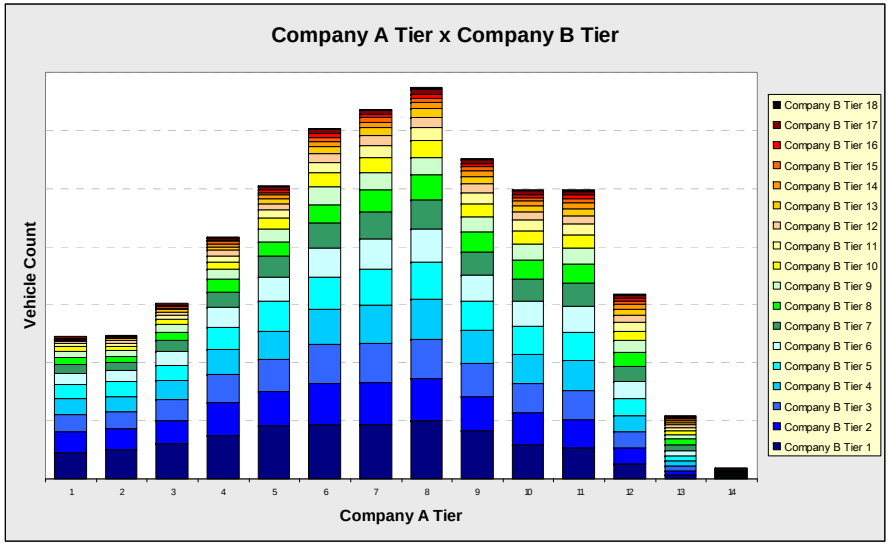
- Company A and Company B use different variables in the tier determination
- The same data set was used to generate both tier graphs
- Examples of variables used include
  - Prior liability limits
  - Lapses in coverage
  - Education
  - Occupation
  - Accident and violations
  - Length of time insured with prior carrier

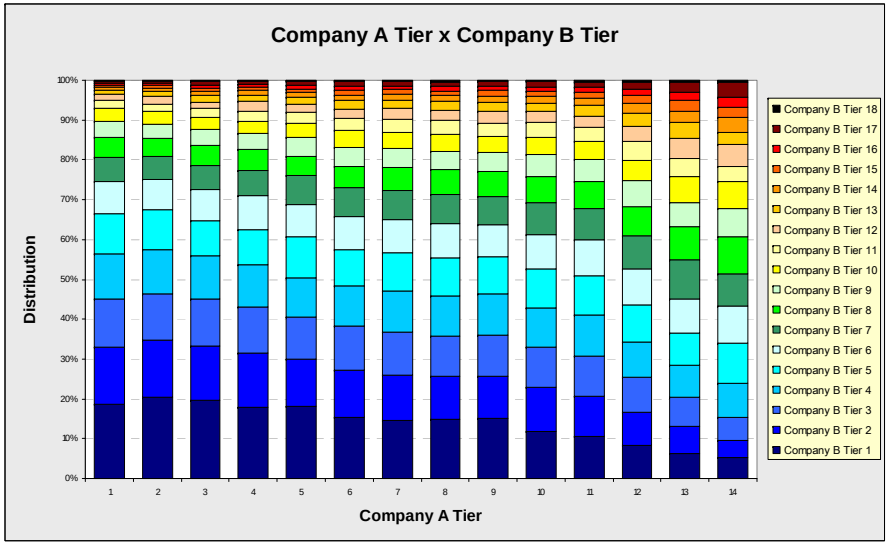


# Example: It is possible for a policy considered low risk for Company A to be considered high risk for Company B

- Any tier for Company A has a range of tiers for Company B
- Explains pricing differences at the individual vehicle/policy level
  - Consistent with marketing campaigns
  - Agent feedback
- Insurance score or tier alignment approaches miss the opportunity to look at the different approaches to risk assessment at the policy level



# Analysis of “On-The-Street” Prices

# Define competitive metrics and target market

- The target market position should be identified and then metrics can be developed to monitor competitive position relative to target
- Competitive Metrics
  - $ or % Competiveness
    - Difference in premium between your company and each competitor
  - % Wins
    - “Win” can be tailored to your company
    - Brand is worth something
    - May vary by competitor
  - Relative to Market
    - “Market” is an average of selected competitor premiums
    - May use simple average or weighted average
    - Weights may be based on market share or selected
  - Rank
  - For auto, are the metrics defined at the vehicle or household level?
- Target market position may vary by segment or competitor
- May want to solicit feedback from product managers and agents in defining target market and competitive metrics

# A quantitative CMA can compare pricing against competitors for the entire book…

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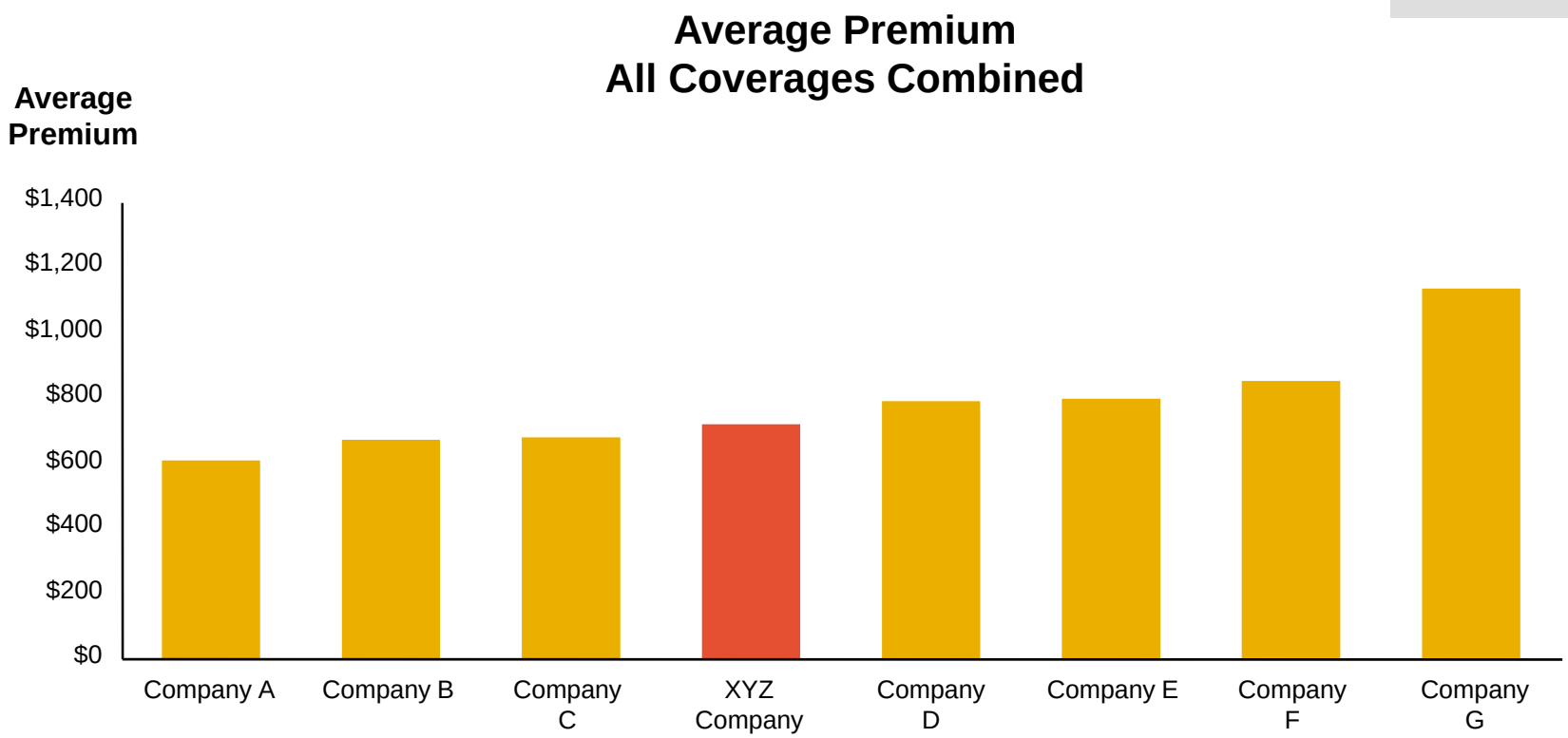

# …and by rating factor/segment

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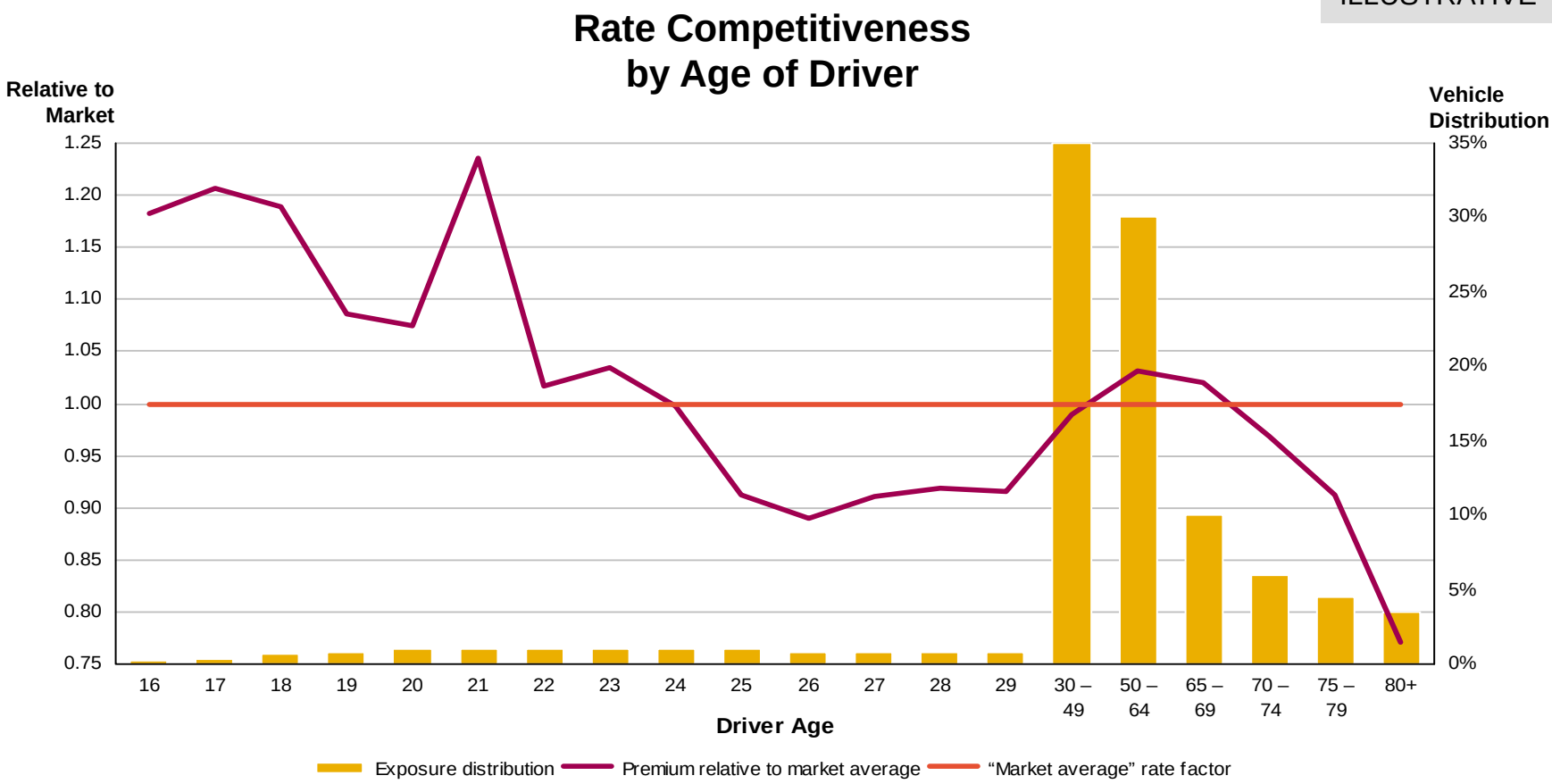

# The comparison by rating factor/segment can be included for most rating plan variables

## Auto Variables

- Driver-related variables
  - Driver age
  - Gender
  - Marital status
  - Education level
  - Employment status
  - Military status
  - Occupation
  - Driving record (clean vs. accidents vs. violations)
  - Months licensed
  - Accident prevention discount
  - Advanced training discount
  - Good student discount
- Prior insurance
  - Length of time with prior carrier
  - Prior limits
  - Type of insurer
  - Lapse in coverage
- Household-related variables
  - Years at residence
  - Location
  - Policy tenure
  - Insurance score
  - Tier/insurance score for client and each competitor
  - Advanced shopper
  - Paid-in-full
  - EFT
  - Paperless documents
  - Multiple line discounts
  - Length of vehicle ownership
  - Household composition
  - Homeownership
  - Residence type
- Geography
  - Territory
  - Zip code
- Vehicle-related variables
  - Model year
  - Vehicle make
  - Cylinders
  - Performance
  - Symbol
    - — Liability and medical symbol
    - — Comprehensive and collision symbol
  - Annual mileage
  - Vehicle use
  - Miles driven to work
  - Location
  - Airbags
  - Disabling device
  - Anti-lock brakes
- Coverage-related variables
  - Limits (BI, PD, medical payment)
  - Deductibles (comprehensive, collision)

All variables used in a rating plan can be reviewed in a univariate rating factor/segment analysis

# The comparison by rating factor/segment can be included for most rating plan variables (continued)

## Homeowners Variables

- Home-related variables
  - Construction type
  - Built with fire-resistive material
  - Year built
  - Presence of a basement
  - Presence of a burglar alarm
  - Presence of a sensaphone
  - Presence of a fire alarm
  - Presence of a sprinkler system
  - Presence of a pool
  - Distance to fire station
  - Distance to fire hydrant
  - Floor area
  - Type of garage
  - Home renovations
    - — Age of heating and cooling systems
    - — Age of plumbing
    - — Age of wiring
    - — Age of roof
  - Type of roof
  - Prior losses/claims
- Home-related variables (cont'd)
  - Number of family units
  - Number of bathrooms
  - Number of levels
  - Protection class
  - Town house
- Prior insurance
  - Length of time with prior carrier
- Geography
  - Territory
  - Zip code
- Coverage-related variables
  - Coverage A — dwelling amount of insurance
  - Coverage C — contents coverage
  - Coverage E — liability
  - Deductible
- Resident-related variables
  - Owner age
  - Marital status
  - Retired
  - Months owned
  - Presence of a mortgage
  - Number of occupants
  - Number of smokers
  - Policy tenure
  - Tier/insurance score for client and each competitor
  - Multiple line discount
    - — Auto
    - — Life
    - — Umbrella
  - Attendance at a safety seminar

# Competitive position may vary based on the new/renewal comparison

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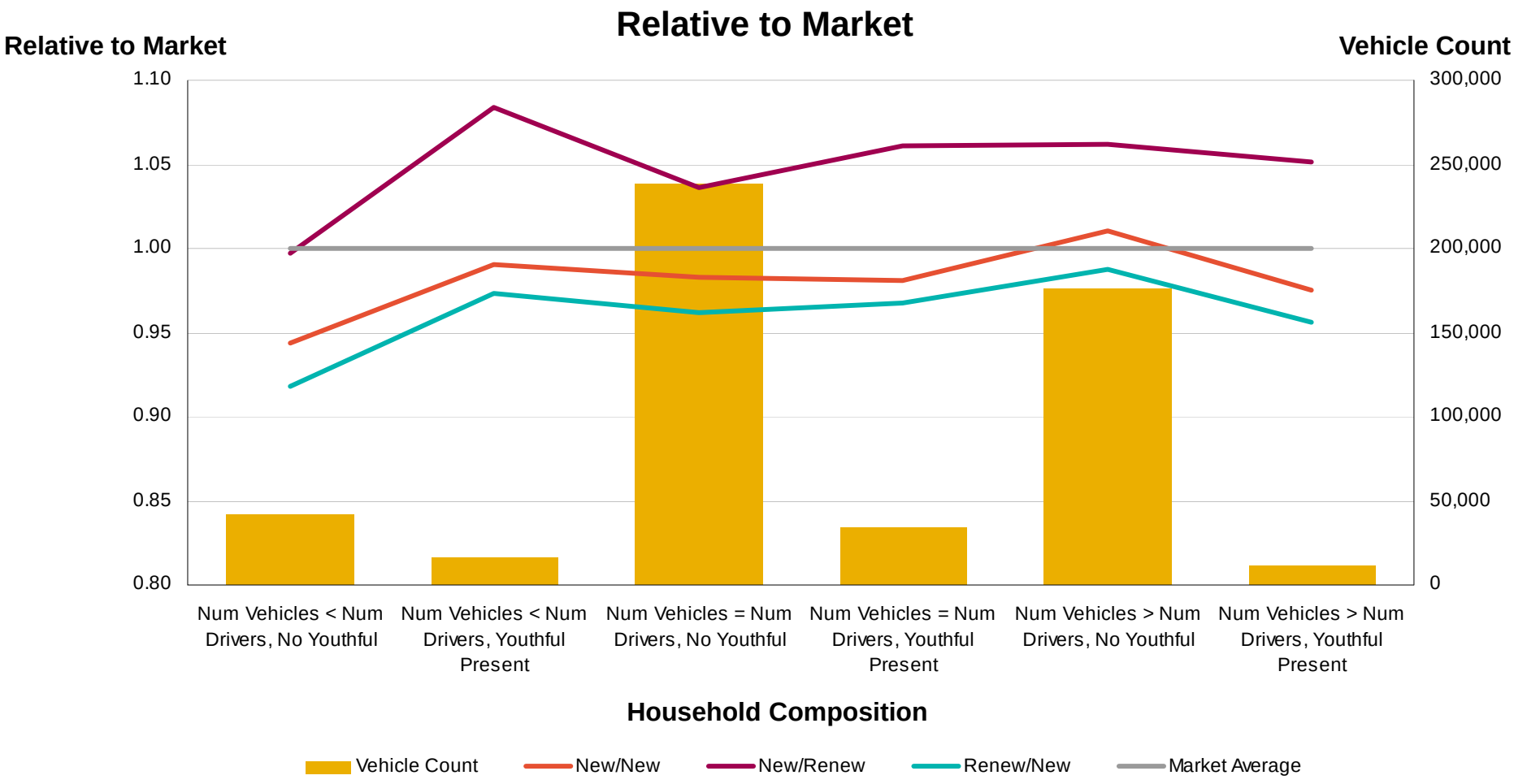
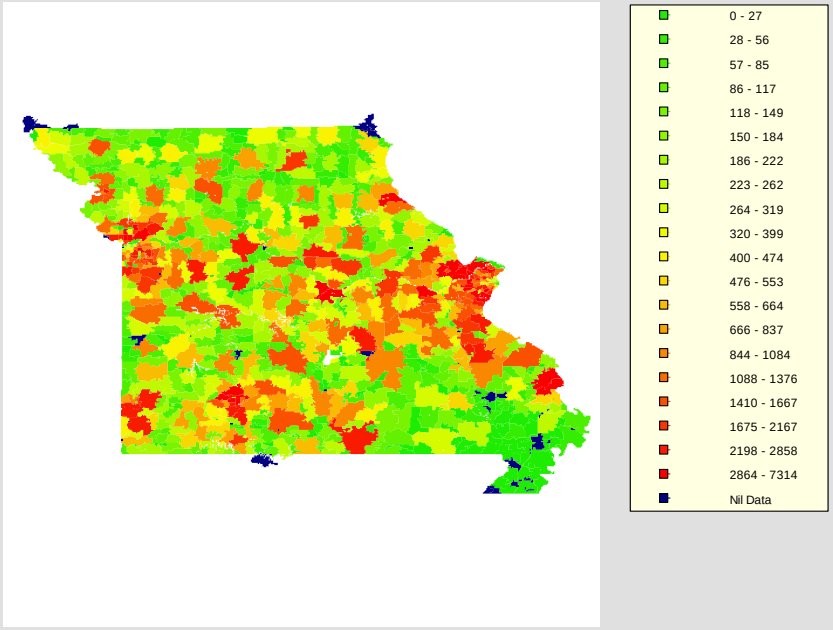
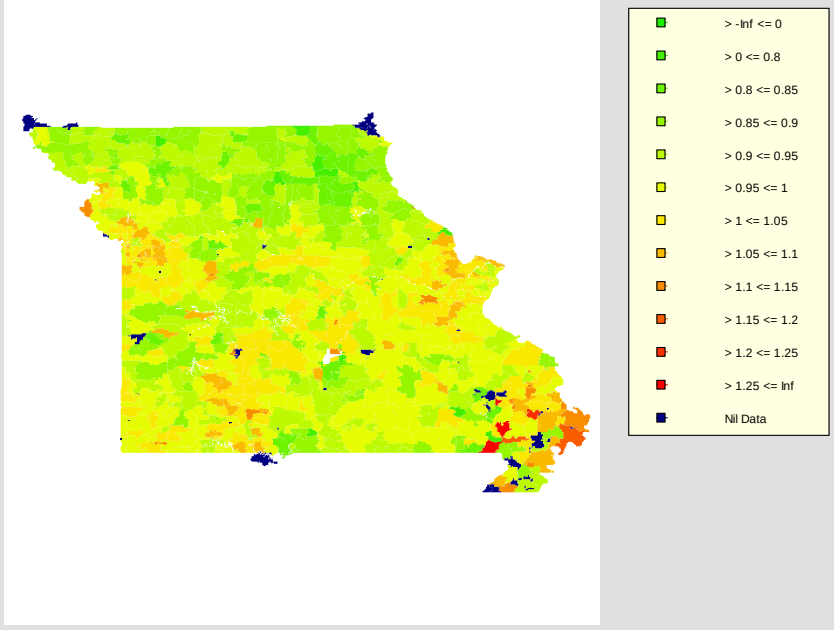


# Policy concentration and competitive position by geography can also be included

**Policy Counts**




**Competitive Position Relative to Market Average**



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