ACCIDENT FUND HOLDINGS, INC.

Commercial Lines Predictive Analytics: "Before & After"

CAS RPM 2011

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Goals of the Presentation

- Overview of the current P&C industry; with an emphasis on workers compensation and the risks associated.
- Role of performance analytics in navigating market cycles.
  - The Competitive Advantage
  - Mitigation of Pricing Risk
- Practical application / use of performance analytics.
  - Predictive Analytics
  - Diagnostics

Overview of the WC Market

- Economy experienced marginal improvements in 2010, with no relief observed in the worker's comp market.
  - No improvements are expected in 2011.
- Insurance companies financial strength remains solid.
- Market conditions remain soft, and not expected to change in 2011
  - Industry has not reached its "pain" point to turn the cycle
  - Rates are flat, companies releasing reserves from prior years
- Expect 2011 will be another tough year for the WC industry
  - ***So, how does one gain an edge in this environment?***

Overview of the WC Market

Risks facing the WC industry:

- The Ongoing Risks:
  - Reserving, Pricing, Catastrophic Event…etc.
- Inflation – Could it accelerate?
- Political – Could the new CA governor rollback reforms?
- Economic
  - Are the current employment shifts by industry permanent?
  - What is the impact on claims?
- Investment
  - Lower yields which in turn will put pressure on the CR.
  - Unstable investment market.
- Perfect Storm – Combination of the above.
- ***Numerous risks to consider……analytics can help***

Role of Performance Analytics

- The Competitive Advantage
- Mitigation of Pricing Risks

Role of Performance Analytics

The Competitive Advantage:

- The ultimate advantage is reducing the loss ratio and achieving better risk selection (vs. the competition).
- Competition is already using analytics in its pricing and expansion strategies.
  - Predictive modeling is starting to take hold on the commercial side.
  - Advances in software are allowing users to more effectively analyze larger quantities of data.
- So…..if your company is not using analytics wisely then your competition will be using this against you, putting you at a disadvantage.

Role of Performance Analytics

Mitigation of Pricing Risk:

- Pricing risk (simple definition):
  - Risk of capital being drained due to under pricing.
- Traditional ratemaking:
  - Review a line, by state, once (maybe twice) a year.
  - Review standard exhibits (rate indication, experience by class,….etc).
  - The time lag between reviews and limited diagnostics could allow for pricing risk to seep in.

Role of Performance Analytics

Mitigation of Pricing Risks:

- Analytics can help fill in this void, by allowing companies to monitor their book of business on a continuous basis.
  - Break from traditional ratemaking
- Move to a more continuous process.
  - In today's environment companies must constantly stay on top of the many fluid risks facing its business.
  - Doing so will allow companies to manage their volatility surrounding their pricing risk.

Benefit and Challenges with Analytics

- From an ERM perspective, the more savvy a company is in analyzing/predicting its business the more value it will create.
- Key challenge is to actually use the information in a constructive way.
  - Need to know what data/metrics are important.
    - Be wary of information overload.
  - Need alignment with Underwriting.
    - If they don't, or can't, use it then the metrics will be meaningless.
  - Need to present the analytics in a meaningful way.
    - Understand the audience.
    - Sometimes graphs work better than tables.

Blending Techniques

- Predictive Modeling
- Diagnostics

Blending Techniques

Predictive Modeling Highlights:

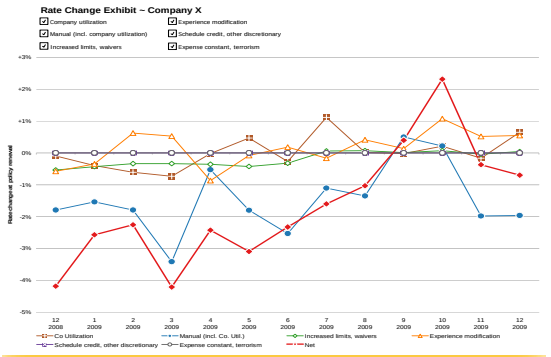
- There is no one magical variable
  - Many variables are predictive
  - Key is putting them together into an efficient model
    - Don't underestimate the importance of a good modeler
- Many good sources of data out there
  - NCCI, BLS, OSHA, other socioeconomic sites….etc
  - Help supplement internal data gaps
  - Do not overlook the data structure
- Implementing the model into the underwriting process
  - Education of agents and underwriters
  - Very effective as a risk selection tool

Blending Techniques

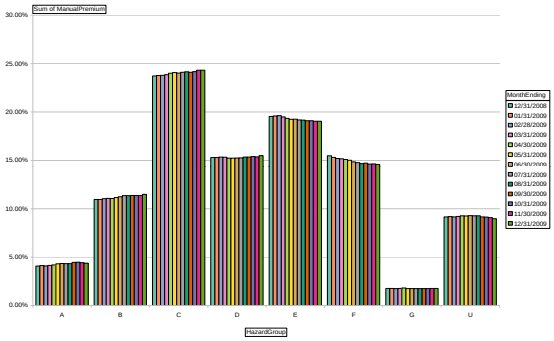
Examples of Diagnostics:

- The following slides are examples of diagnostics that AFHI is currently using.

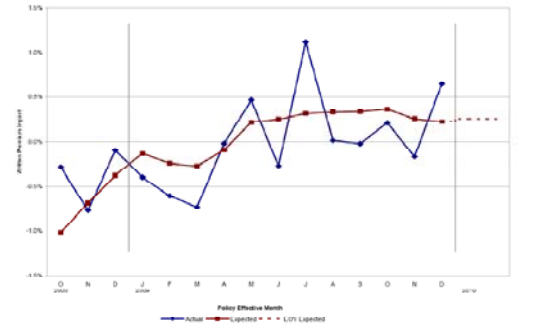
Net Rate



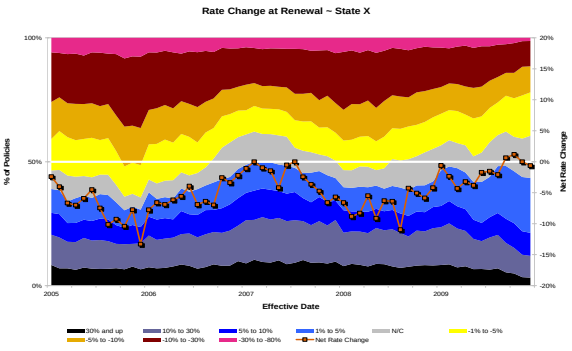
Hazard Group



Rating Co Utilization

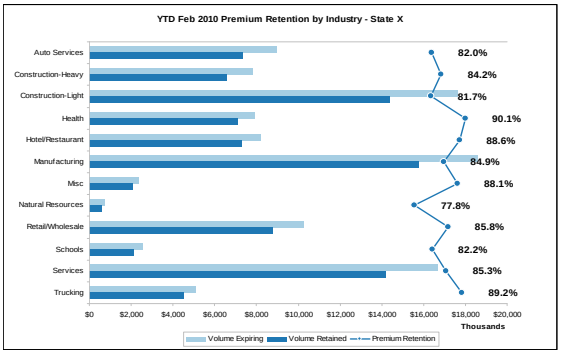


Rate Change Range



Rating Tier Utilization

Retention by State and Class



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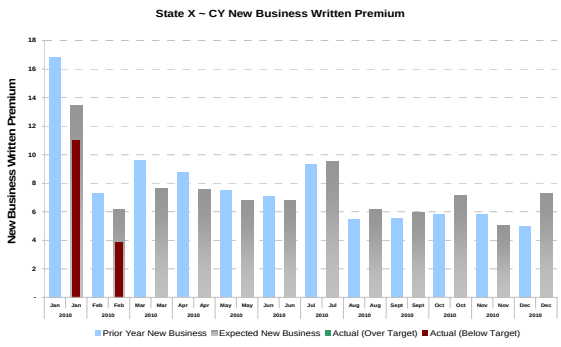

Questions?