

# Predictive Modeling, Big Data and Regulatory Concerns: A Healthy Tension?

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Chester J. Szczepanski FCAS, MAAA  
Senior Vice President & Chief Actuary  
The Donegal Insurance Group

# A Practical Perspective : Historical Context

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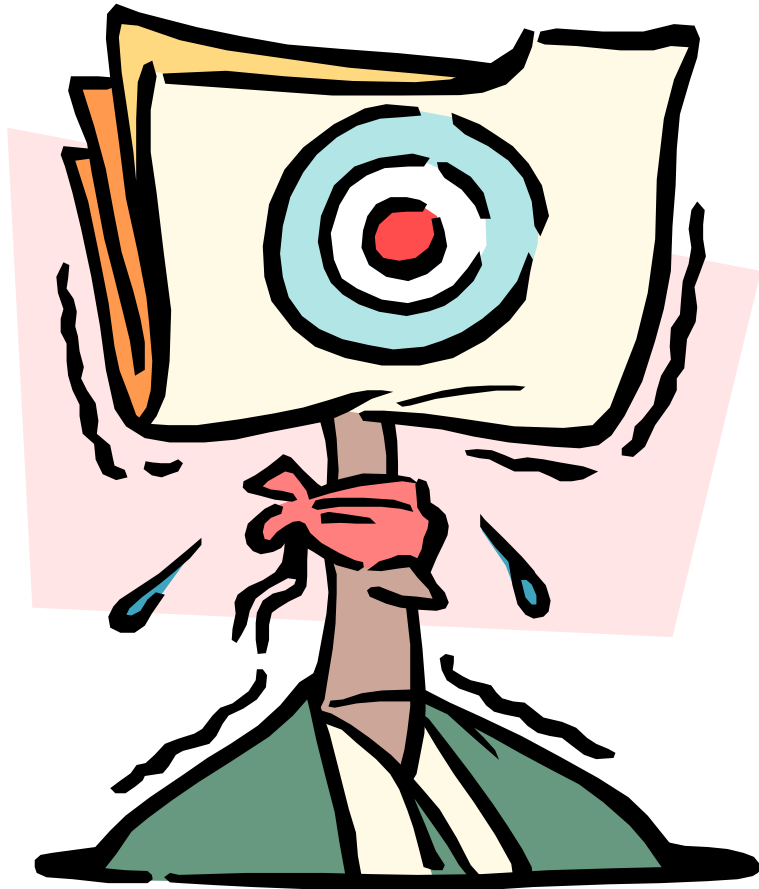
## **Statutory Review Standard** *(officially and generally)*

Rates neither:

- Excessive,
- Inadequate,
- Or unfairly discriminatory.

# A Practical Perspective : Historical Context

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**Review standard**  
*(unofficially)*

Don't  
Screw  
Up!

# A Practical Perspective: Efficient Solution

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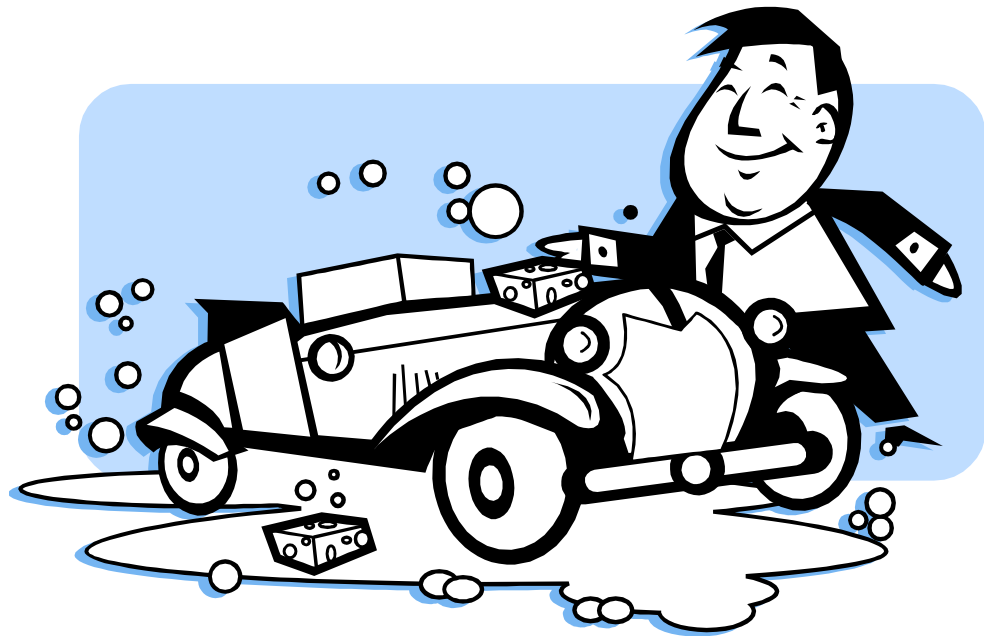
## An Often Workable Solution:

- Competition in competitive markets can often regulate markets to the statutory standard.

A Practical Perspective:

Personal Auto ( & Commercial Auto Too!)

- Why?
- How?



# A Practical Perspective: Personal Auto

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- The likely cornerstone of any company's business plan is profitable growth. The Personal Auto Book continues to be at the core of this strategy. Company's generally know that they must:
  - *Identify and keep the better risks;*
  - *Attract more of these risks,*
  - *Refine pricing and selection among all risks, and*
  - *Avoid adverse selection.*

# A Practical Perspective: Personal Auto

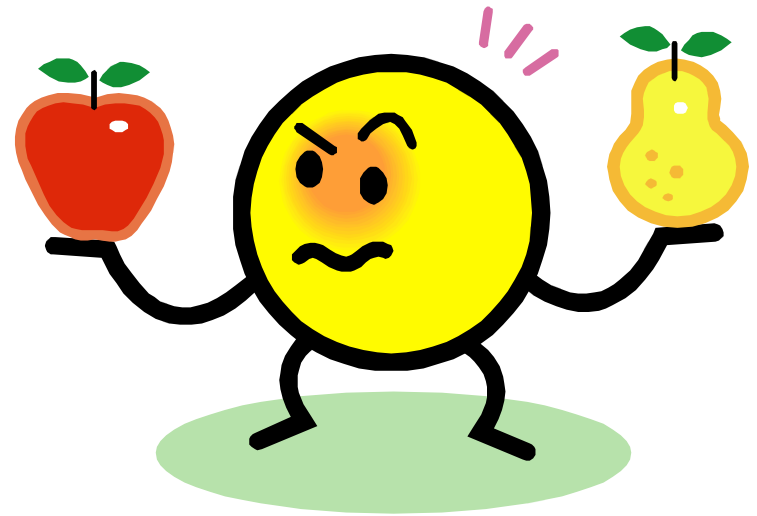
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- Personal Auto
  - Like Bonds in a diversified portfolio.
  - Generally lower volatility.
  - High volume.
  - Very predictable,
    - Modest limits,
    - Other statutory factors.
  - Must guard against loss ratio erosion,
    - *Adverse selection!*

# A Practical Perspective: Key Observation

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- Adverse Selection, ...
  - **anti-selection**, or **negative selection** is a term used in economics, insurance, risk management, and statistics. It refers to a market process in which undesired results occur when buyers and sellers have asymmetric information.







# A Practical Perspective: Personal Auto

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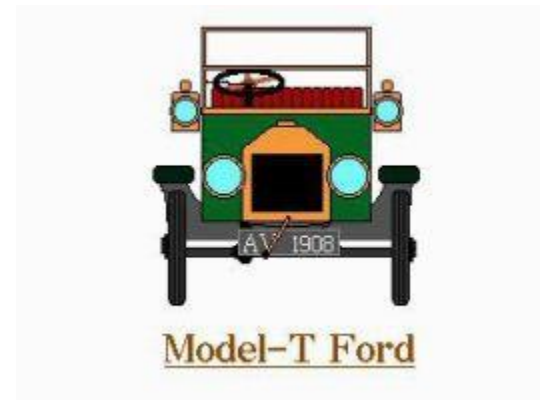
- Intuitively we all know the key factors:
  - How many miles are driven,
  - Where are they driven,
  - When are they driven,
  - How are they driven,
  - And the insured's proclivity to use the insurance product.

# A Practical Perspective: Personal Auto

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## Past Practice:

- Ask the insured for annual mileage.
- Ask the insured where the vehicle is garaged.
- Work, Pleasure or both?
- Past violations and accidents?
- Past claims?



# A Practical Perspective: Personal Auto

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## Recent Practice:

- Credit Scores,
- Big Data,
- Predictive Models:
  - Location,
  - Education,
  - Income,
  - Other factors....



# A Practical Perspective: Personal Auto

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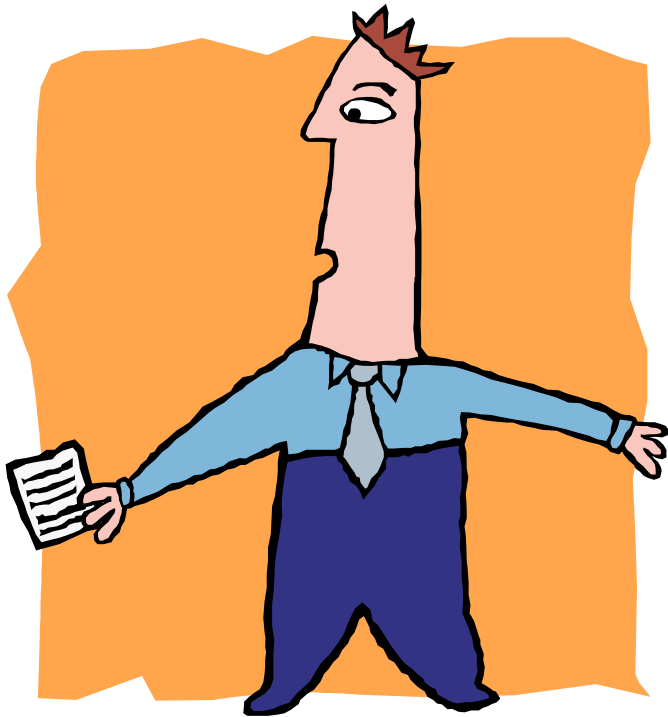
## On the Horizon (*Now?*):

- Brave New World Is Here:
  - Fitness Devices,
  - Smartphones,
  - Auto Manufacturers.
- Accelerometers & Apps Everywhere!
- Everybody is monitoring.
- Who “owns” the data?
- More Importantly: Who knows how to leverage the data?



# A Practical Perspective: Personal Auto

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## Key Points:

- Companies, like species, must compete. They either adapt or go extinct!
- Beyond the science, the devil is in the details.

# A Practical Perspective: Personal Auto

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## **Survival:**

- Strength in data and analytics.
- Outliers, those that lag behind, become prey.

# A Practical Perspective: Conclusion

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- **Competition works, but there can be . . .**
- **Tension with consumer interests.**

# A Practical Perspective: Structural Considerations

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- Mandatory coverage,
- Public acceptability,
- Consumerism.





# A Practical Perspective: Asymmetric Information

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- Many players are now using this information and employ these techniques.
- They are advantaging themselves at their competitors' expense.
- This is anathema to profitable growth for the less prepared and refined.

# A Practical Perspective: Managing the Tension

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Analytic framework to manage the tension and to guide regulatory response:

- AAA Risk Classification Statement of Principles



# A Practical Perspective: Managing the Tension

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## **Purpose:**

To achieve and maintain viable insurance systems, the process of risk classification should serve three primary purposes. It should:

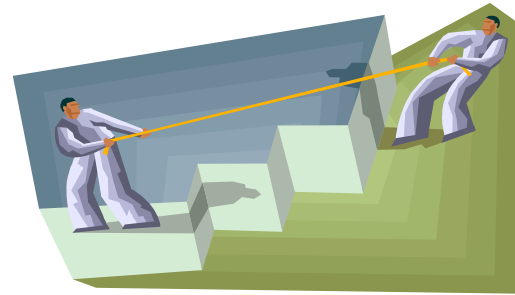
- protect the insurance system's financial soundness;
- be fair; and
- permit economic incentives to operate and thus encourage widespread availability of coverage.

# A Practical Perspective: Managing the Tension

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## A Regulatory Solution

- Rely on market place competition (*Economic Incentive*).
- Balance with an eye to assure fairness for all parties.



# A Practical Perspective: Key Take-Aways

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- ❑ For economic survival, companies must compete and keep up with the pack.
- ❑ Best practice is to exploit available technologies.
- ❑ Technologies are moving closer to measuring real risk factors.
- ❑ Regulators have a daunting task to balance the tension between fairness and competition.

