Detariffication in Non-Life Insurance: Observations and Opportunities

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Today’s discussion:
Detariffication in Non-Life Insurance

- India’s detariffication
- Detariffication in other markets
- Understanding stakeholders and market dynamics
- General observations for the future
- Implications of not being among the fastest runners in the rating/pricing game
- Potential paths for moving forward
  - Changing your mix of business
  - Refining your underwriting
  - Adding new variables
  - Pricing sophistication
  - Product differentiation
  - Competitive analysis
  - Price optimization.

India Detariffication - Background

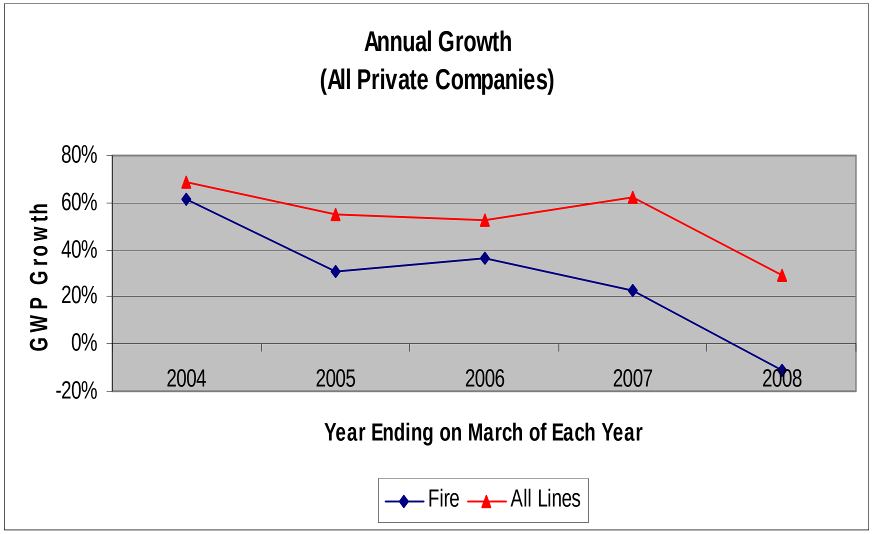
- Tariff Advisory Committee (TAC) set up in 1968 to provide rates to the industry
- **Detariffication**
  - Other than mandatory Motor Third Party Liability (MTPL) insurance, all classes of business have been detariffed
    - — 1994: Aviation, PA, health, certain liability coverages and marine cargo
    - — 2005: Marine hull
    - — 2007: Fire, engineering, motor (non-MTPL), workers compensation, public liability coverages (2/3 of the non-life business in India)
  - Standard policy wordings were being used under the tariff regime, which were supposed to be abolished as well:
    - — Companies still have to use pre-detariffication policy wordings
- **Limits on free pricing**
  - Until December 2007 companies were allowed to offer a maximum discount of up to x %, without IRDA approval:
    - — 49% compared to tariff rate for fire and engineering policies
    - — 20% compared to tariff rate for motor own damage policies
  - Starting January 2008 companies have been allowed to charge the actuarially determined rate after filing it with IRDA

India Detariffication – Initial Impact (Major Classes)

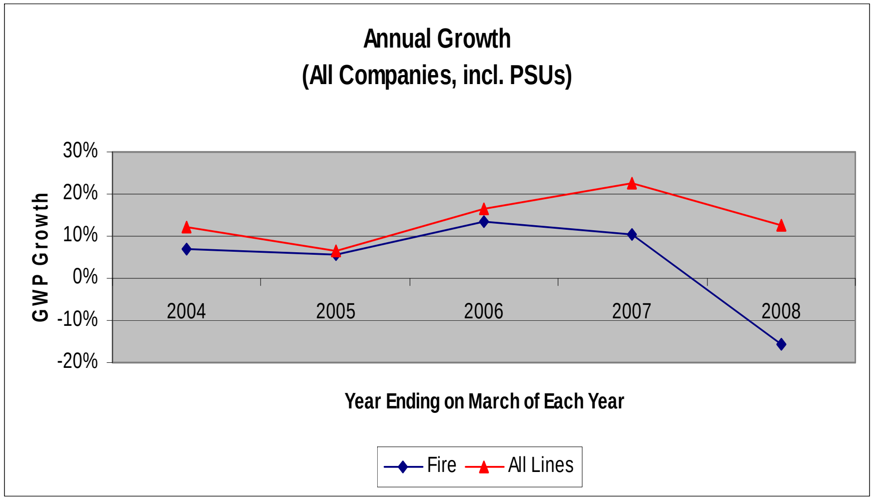
- **Marine**
  - Price for coverage fell dramatically after rate relaxations were allowed
  - Marine cargo policies were even added on to fire policies for as little as Re.1 (product bundling)
- **Fire**
  - Pre-2007, fire was the most profitable class of business
    - — The profitability was further enhanced by extremely large ceding commissions by reinsurance companies
    - — Free pricing saw a dramatic decline in the premiums for fire policies accompanied by slight normalization of the Marine premiums (which fire policies were no longer able to cross-subsidize)
- **Motor**
  - Two components: Own Damage (OD) and Third Party Liability (TPL)
    - — OD premiums declined substantially but not as much as fire (since there was smaller room for reduction in the first place)
    - — TPL is still under an inadequate tariff
    - — Indian Motor Third Party Insurance Pool (IMTPIP) set up for Commercial TPL policies which have a very poor loss experience
      - – All companies doing business in India have to participate and share in the IMTPIP losses in proportion to their total written premiums in the country

India Detariffication – Analysis of Growth in the First Year

- In the one year following price freedom we can see there is negative premium growth for fire coverage
- Overall, the premium growth for private companies in India fell from over 60% in 2007 to around 20% in 2008
  - Slowest rate of growth for the private companies since the sector was liberalized in 1999



- Growth rate for the industry, including PSUs, fell to 13% from 23% last year



- **Detariff**
  - China Insurance Regulatory Commission (CIRC) was established in 1998 and imposed a tariff on motor insurance
  - With accession to WTO, and liberalization of the insurance industry, it was decided to abolish the tariff beginning January 2003
    - Free pricing as well as policy wordings were allowed as long as they were filed with the CIRC before being used
    - The market fell into severe competition and rates fell to nearly half of the tariff rate
      - At the time, motor premiums comprised more than 50% of the total premiums in the Chinese market and over 80% of the portfolio for some of the smaller companies
      - The sharp rate decline lead to major solvency concerns for the industry, especially for the smaller players relying on their motor insurance sales to provide cash flows to stay in operation

- **Retariff?**
  - Given the severe drop in insurance premiums, CIRC decided to re-impose tariff on the motor mandatory Third Party Liability coverage
    - It is compulsory for consumers to buy a minimum coverage
    - It is also compulsory for insurance companies to provide the cover if approached by a car owner
      - The rates are fixed and the same for all policyholders (no rating variables) but is meant to be on a "break-even" basis
      - There have been consumer concerns that the prescribed tariff is higher than "break-even" but no credible loss statistics are available to confirm
  - Since the mandatory limit is rather low, additional cover can be purchased on a voluntary basis
    - Even though the additional cover is voluntary for the consumer to buy it is also very strictly regulated by the CIRC
    - Insurance companies have been provided with advisory policy wordings as well as advisory rates to charge
      - Limited rating variables are used
      - Maximum discount allowed from the advisory rate is 30% (which almost every insurer gives)

Japan - Detariffication

- Non-life Insurance Rating Organization (NIRO) used to provide rates that insurers were required to charge
- 1998 saw the detariffication of the market, allowing free rating as well as changes in coverage
- The new market:
  - Companies improved service and enhanced products as means of getting and retaining more customers
  - However, intense competition in commercial lines lead to premiums falling by as much as 30%
  - Personal Lines split into two major groups based on differentiated products and pricing (both with healthy profitability):
    - Multinationals and small domestics: lowered rates and moved to new & cheaper distribution channels (internet, other direct marketing channels)
    - Large domestics: Changed policies to improve/increase coverage and charge higher rates commensurate with the cover provided
  - In general, companies had to reduce costs and improve efficiencies to compete
  - The industry looked to consolidation in order to reduce expenses:
    - At the time of detariffication, over 20 GI Companies operated in the market
    - Currently there are 10
    - More merger talks under way

Massachusetts Auto – Private Passenger Auto – Detariffication

- 1927 until 1976:
  - Coverages split between compulsory (regulator) and optional (insurers)
  - Compulsory coverage rates have cross subsidies benefiting urban and inexperienced operators
- 1976: Six months long experiment with competitive rating; significant rate shock for subsidized risks
- 1977 until 2008: All rates set by regulators
  - Cross subsidies remain for urban and inexperienced
  - No age/sex/marital status in rating; years licensed used rather than age
  - Nine rating classes (experienced 6+ years, senior citizen, business, inexperienced 3-6 years [principal or occasional], inexperienced 0-3 years [principal or occasional, with and without driver training])
  - Territories, Safe Drivers Insurance Plan (SDIP), manual set by regulators
- 1988: At the time about two-thirds of the market was in the “residual market“
  - “Residual market” funding implications cause the voluntary market to shrink

Massachusetts Auto – Private Passenger Auto – Detariffication (cont.)

- Carriers required to file for rates by November, 2007
  - Class relativities could be revised but territorial relativities could not
  - Rate changes by coverage and class had to be applied uniformly by territory
- Carriers could expand classifications but they could not include rating factors based on certain attributes prohibited by statute or regulation (age, sex, marital status, race, creed, national origin, religion, occupation, income, education, or home ownership)
- Public nature of rates lead to carriers revisions reflecting deeper overall reductions plus additional discounts
- Instead of the nine rating classes allowed in 2007, carriers expanded their classes to include consideration of the following: finer breakdown of years licensed, good student discount, student living away from home, companion policy discount, advanced driver training, renewal / loyalty discount
- Carriers also expanded coverage (e.g., expanded towing and rental reimbursement)
- 19 carriers writing PPA in 2007
- Four new carriers entered the market

In a free market
Understanding market dynamics is complicated

REGULATORY ENVIRONMENT

- Pricing regulations
- Product regulations
- Licensing regulations
- Financial regulations

Market Structure

- Market concentration of domestic insurers
- Market share of foreign insurers
- Level of product homogenity/market transparency
- Significance of barriers to market access
- Importance of economies of scale

Market Behavior

- Competitive parameters
  - Price
  - Conditions
  - Service
  - Advertising
  - Sales channels
- Spirit of competition versus tendency to act in collusion

Market Result

- Price level
- Profit level
- Innovation level
- Availability of insurance cover

Predicting the future after detariffication

- Inadvisable to reach any premature conclusions
- Vague generalizations cannot do justice to the complexity of the situation
- Deregulations can cause significant changes in the marketplace
- Few relatively reliable predictions can be made
  - Increased competition
  - First “top-line” then “bottom-line”
  - Significant rate competition
  - Increased competition for “good” risks
  - Industry margins shrink while volatility of results increase
    - — Price reductions for “good” risks are not offset by price increases for less favorable risks

Some items suggested by Swiss Re Sigma

Predicting the future after detariffication

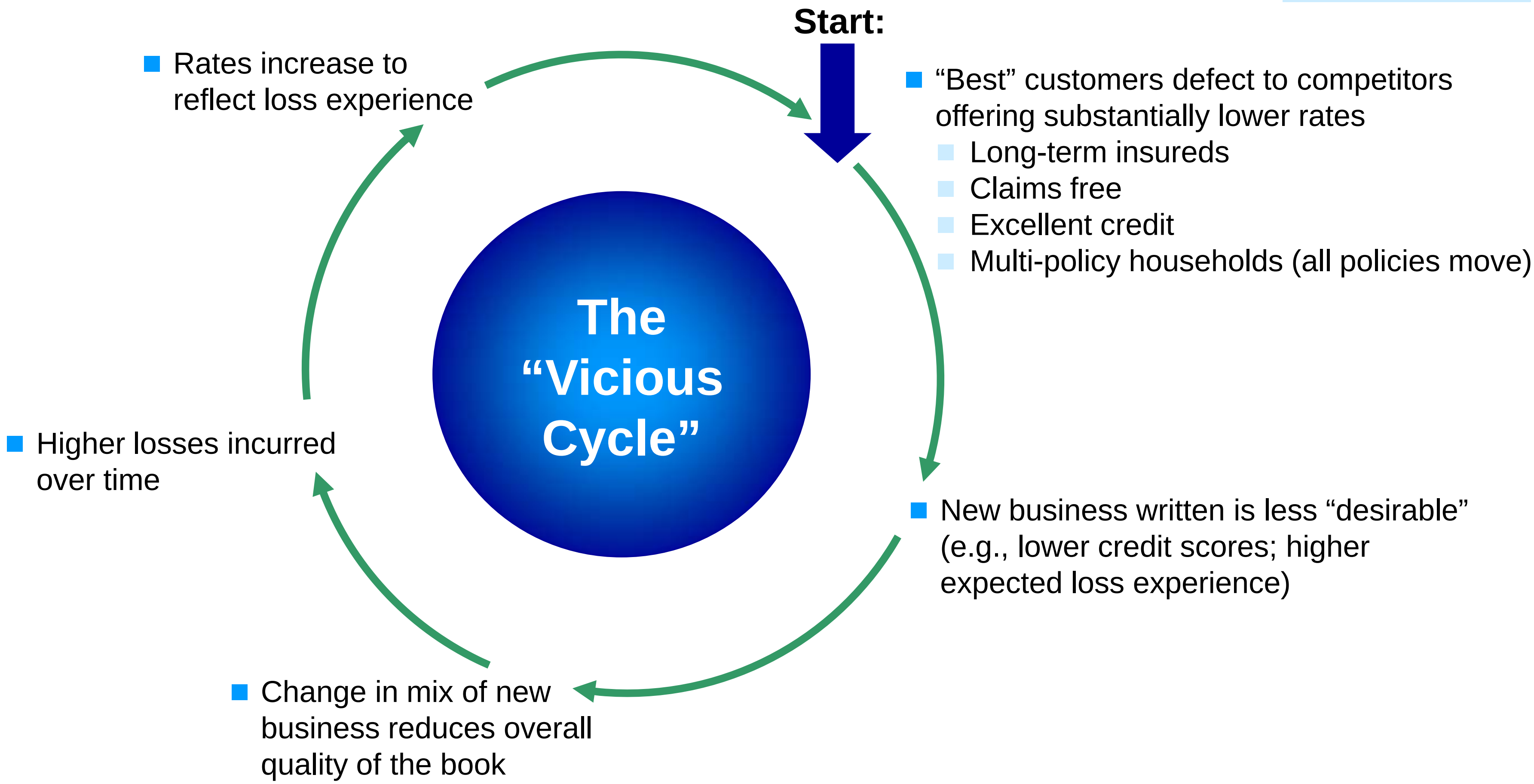
- Few relatively reliable predictions can be made (cont.)
  - Elimination of cross-subsidization
  - More difficult to obtain affordable insurance coverage for “bad” risks
  - Underwriting cycles become vogue or more pronounced
  - Level and volatility of results become indicators of insolvency risk
  - Increased pressure to cut expenses to the benefit of consumers
  - Joint ventures with more sophisticated insurers can reap rewards
  - “First movers” benefit the most
  - Distribution systems will change
    - — Brokers play greater role as they demonstrate their value (specifically commercial lines)

Some items suggested by Swiss Re Sigma

Companies that don't play — or that don't play aggressively — are fundamentally disadvantaged and subject to adverse selection

- Multi-line exclusive agent: "*I'm seeing defections of my best clients coupled with an inability to attract desirable new business*"

ILLUSTRATIVE



There always will be competitors that are running faster — you don't need to be the fastest, just faster than others

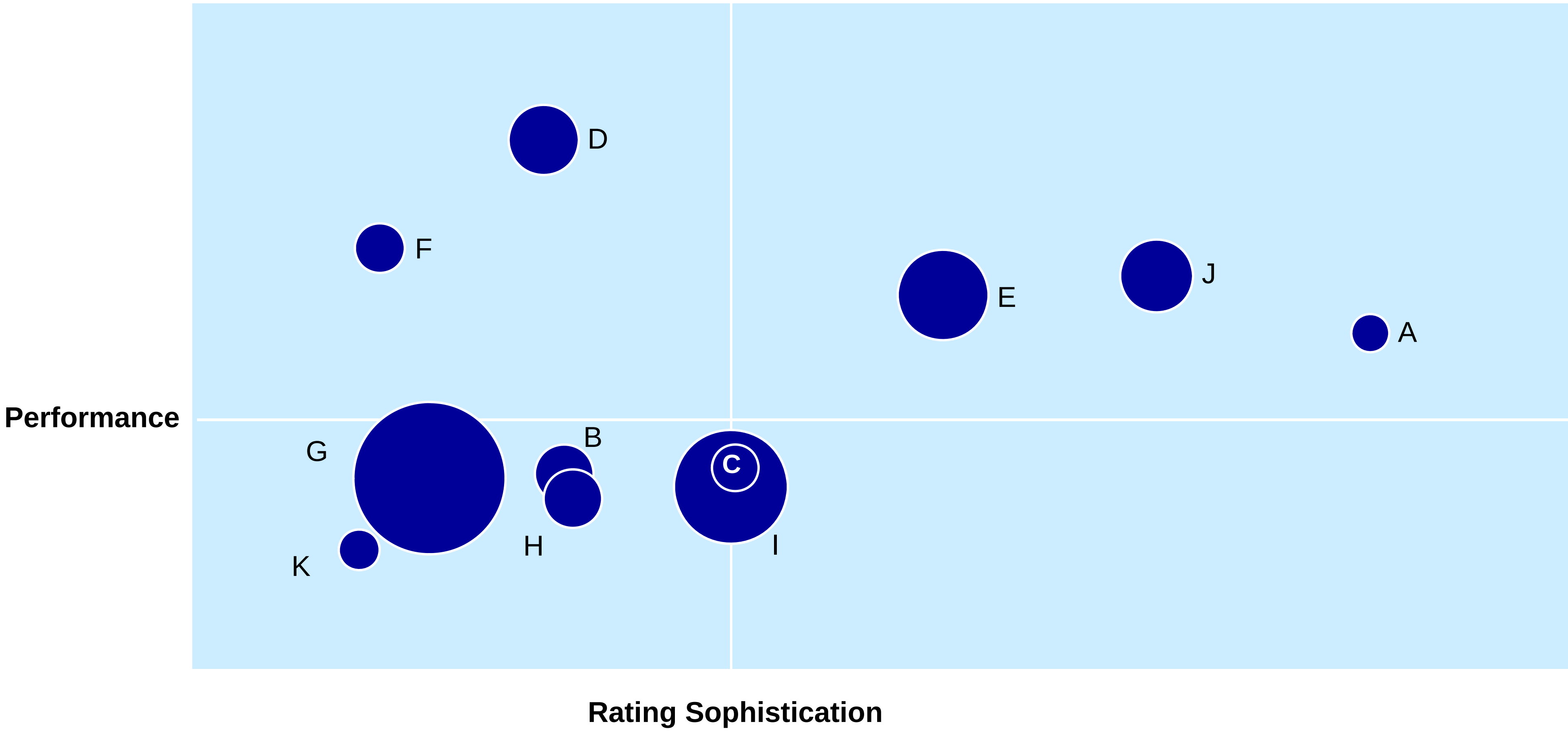
- **The "fast runners" are seeking to accurately rate all segments of their books — they seek more granularity and refinement**
  - **The greater the pricing accuracy, the less concern over adverse selection and changes in the business mix**

In today's global market, sophisticated pricing is needed to "play"

By adopting increasingly sophisticated approaches to rating/ underwriting, market leaders distinguish themselves from “the pack”

ILLUSTRATIVE

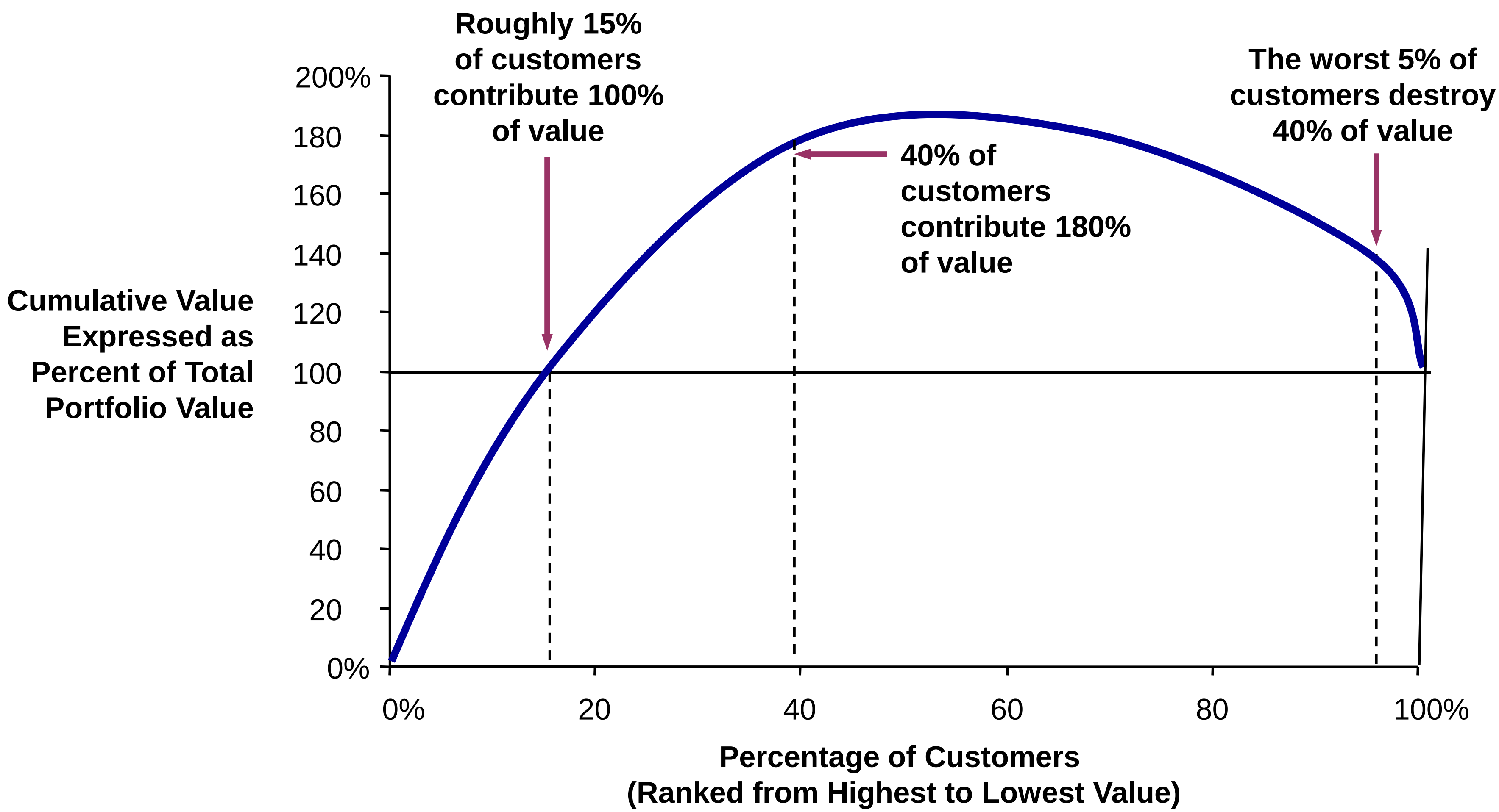
Competitive Landscape — Motor



Where is your company now? Where would you like to be in the future?

Market leaders take advantage of the prevailing economic dynamics to change the rules of the game…

ILLUSTRATIVE



What if you could predict better than your competitors, which policyholder would have losses?

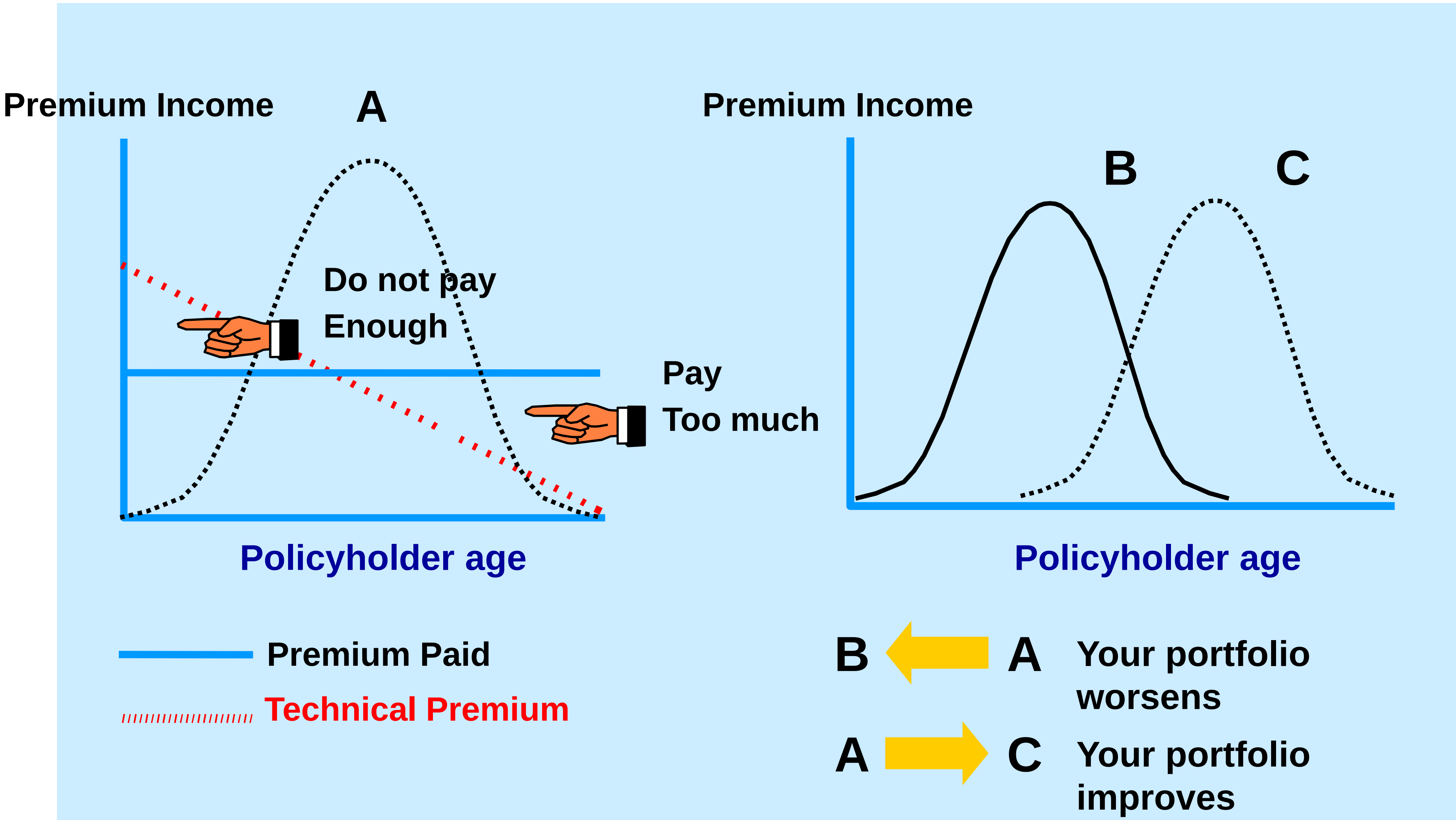
…to reach the finish line first

- Better understanding of client profitability
  - Current mix of business
  - Cross subsidizations
  - Optimal mix of business
- Better predictors of customer profitability
  - New/more/better variables and more accurate parameters
  - Interaction among the variables
- Primary enablers
  - Solid data
  - Sophisticated statistical models
  - Competitive intelligence
  - Courage and conviction

Understanding cross subsidization can help you understand how to transform your book of business

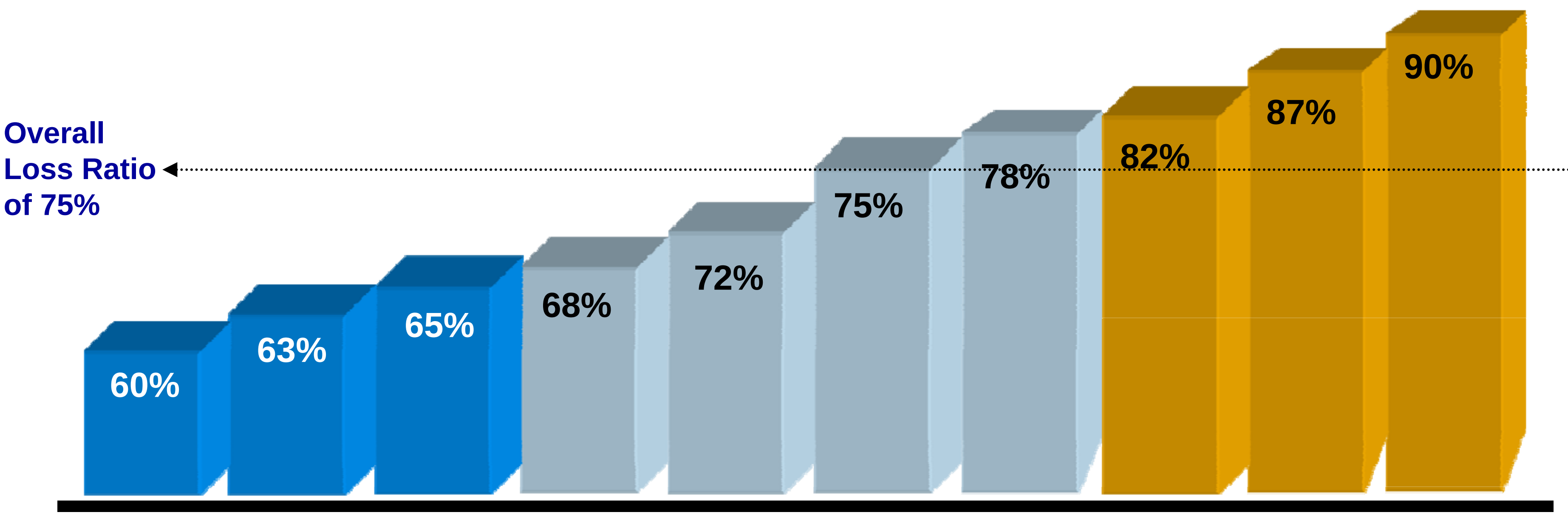
- Tariffed and nontariffed lines of business
- Line of business
- Class
- Territory
- Rating variable
- Social factors
- Economic factors
- Package results

If we understand the cross subsidies we can improve profitability by shifting our mix of business

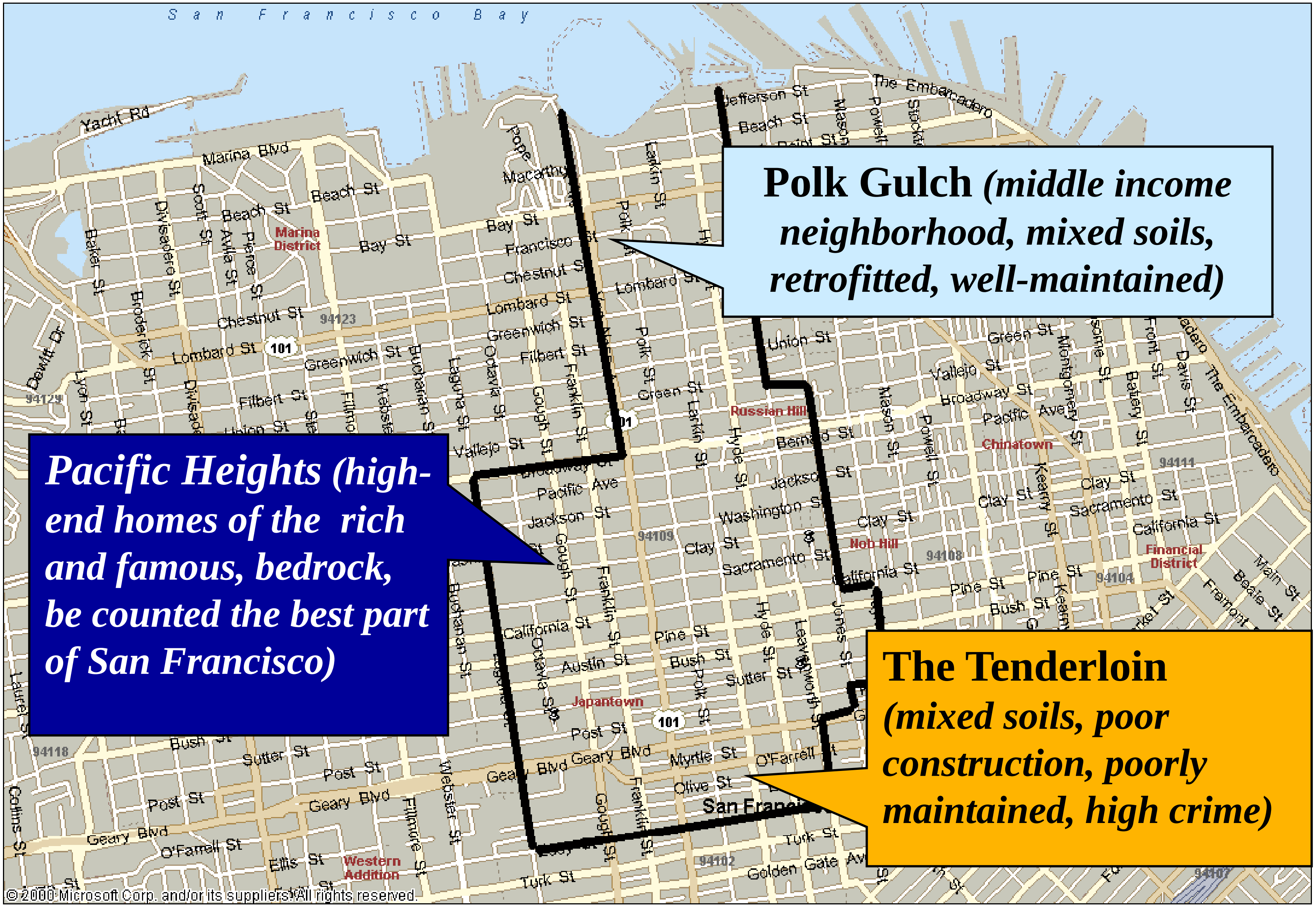


The combination of underwriting and additional pricing variables may be able to further segment a given class of business

Roofers



Good risk management		No risk management
Education	Above average	On-the-job training
Commercial buildings	Average	Residential buildings
Nail guns	Below average	Hammer and nails



Polk Gulch *(middle income neighborhood, mixed soils, retrofitted, well-maintained)*
Pacific Heights (high-end homes of the rich and famous, bedrock, be counted the best part of San Francisco)
The Tenderloin *(mixed soils, poor construction, poorly maintained, high crime)*
San Francisco Bay
Marina District
Russian Hill
Chinatown
Nob Hill
Financial District
Japantown
Western Addition
94123
94109
94108
94111
94104
94118
94102
94129
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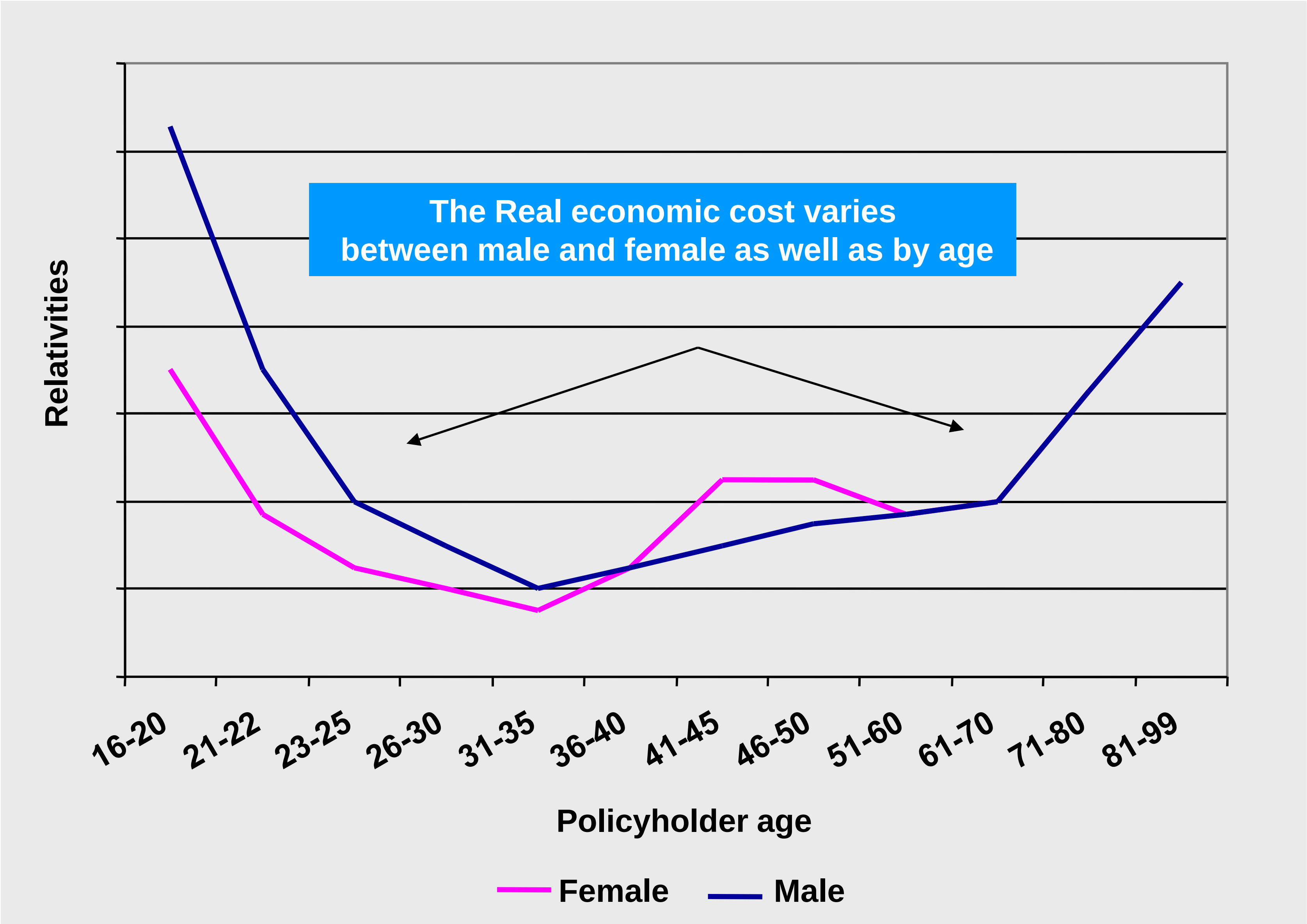
Multiplicative Rating Structure

Rating Factors						
Base Premium	**Age**	**Coefficient**	**Territory**	**Coefficient**	**Vehicle Age**	**Coefficient**
Rs. 40,000	17-19	1.00	A	0.50	0	1.00
	20-25	**0.90**	B	0.60	1	0.98
	26-30	0.80	**C**	**0.70**	2	0.96
	31-40	0.70	D	0.80	**3**	**0.94**
	41-50	0.60	E	0.90	4	0.92
	51-60	0.50	F	1.00	5+	0.90
	61+	0.40				
	7 Levels		**6 levels**		**6 Levels**	

Number of risk profiles: 7 x 6 x 6 = 252

Profile: 20-25 years old, Territory C, Vehicle Age = 40,000 x 0.90x 0.70 x 0.94 = Rs. 23,688

Properly identified interactions will lead to a competitive advantage; not everything is multiplicative

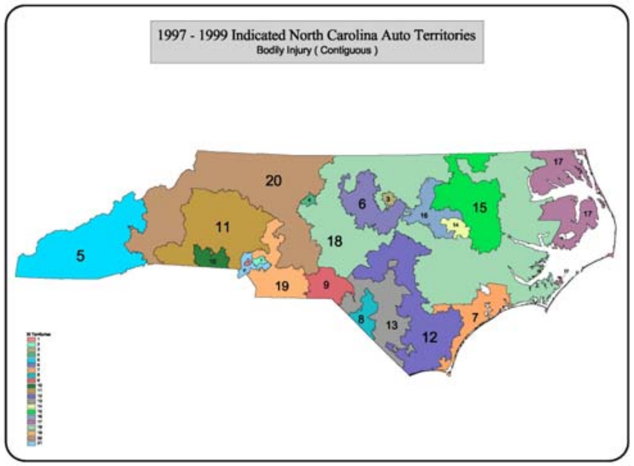


Defining new rating territories is necessary to ensure accurate rating — clustering provides a statistically based approach to territorial definitions

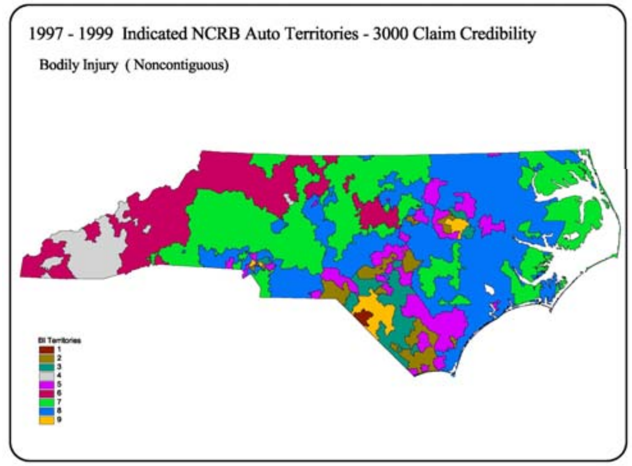
ILLUSTRATIVE

- Clustering can be done using contiguous or non-contiguous boundaries

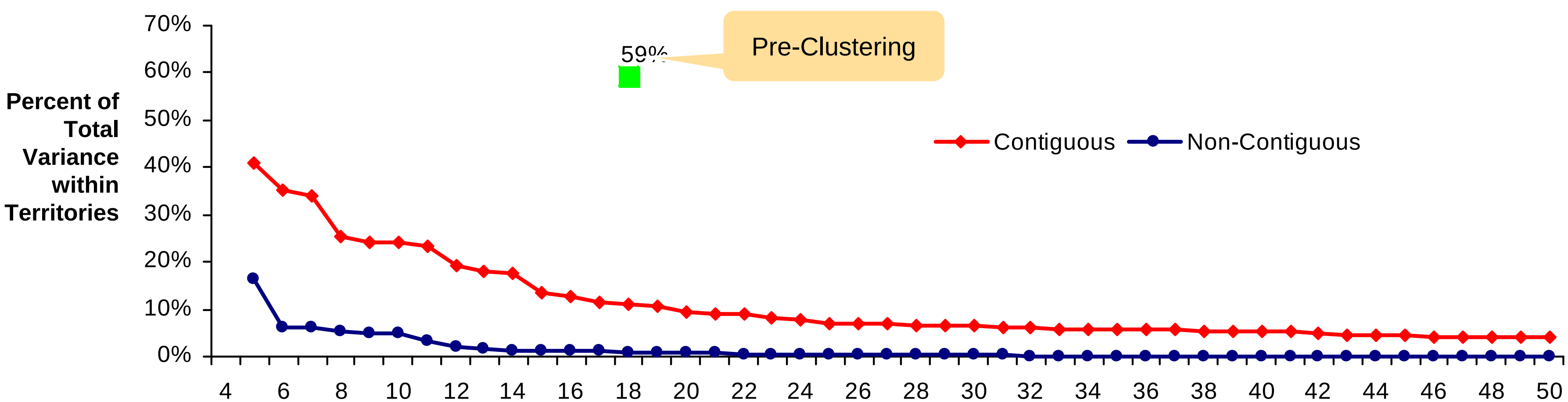
Contiguous Clusters



Non-Contiguous Clusters



- The goal is to define homogeneous territories (low "variance" within territories)
- Many more contiguous clusters are needed to match results of non-contiguous clusters



A disciplined/systematic approach to enhance pricing sophistication is essential

Overview of Basic Approach

Step 1	Step 2	Step 3	Step 4	Step 5
Reconnaissance and Roadmap	Data Gathering and Cleansing	Analysis and Model Development	Refinement of Pricing Approach	Implementation and Monitoring

Primary Outputs/Deliverables

- A clear articulation of the desired pricing/rating/positioning
- A statistical model for determining price relativities
- An updated rating plan that reflects new variables, interactions, tiering, revised territory definitions, etc.
- High-level implementation and change management plan
- Recommended priorities for next-generation enhancements

- The duration of these engagements can vary considerably and particularly depends on data quality and availability — a "typical" assignment might take six to nine months to get to the point of implementation

Enhancing pricing sophistication is a journey — how far can you go now?

Start

Early Days

Rating	Improve existing structure, add/modify tiers
Retention	Identify problem areas, assess tolerance for rate changes
Competitive Analysis	Qualitative review to assess rating plans vs. key competitors and market leaders

On The Road

Rating	Add variables from other data sources
Retention	Include competitors' rates in assessing renewal likelihood
Competitive Analysis	Gain access to components for competitor rating — enables multivariate CMA analysis

Leading the Pack

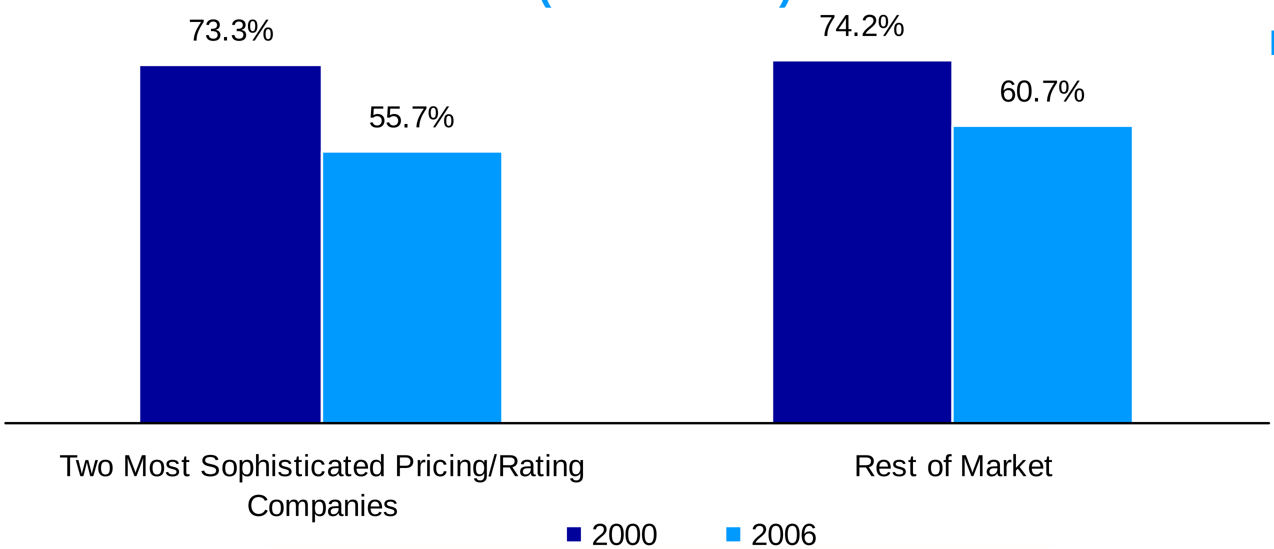
Rating	Price Optimization Management (POM)
Retention	Include new business conversion rates in POM along with renewal assessments
Competitive Analysis	Ongoing review to build data for POM

Don’t get left behind!

Companies also enjoy lower loss ratios, which in turn, provide additional pricing flexibility

- Our experience suggests the potential for a 2% to 4% improvement in loss ratio

Average Loss and ALAE Ratio Improvements (2000 – 2006)



- The two most sophisticated pricing/rating companies have enjoyed a:
  - 17.6 point average reduction in loss/ALAE ratio from 2000 to 2005, compared to 13.5 point reduction for the rest of the market
  - 1 to 5 point loss cost advantage during the same period

Potential Impact

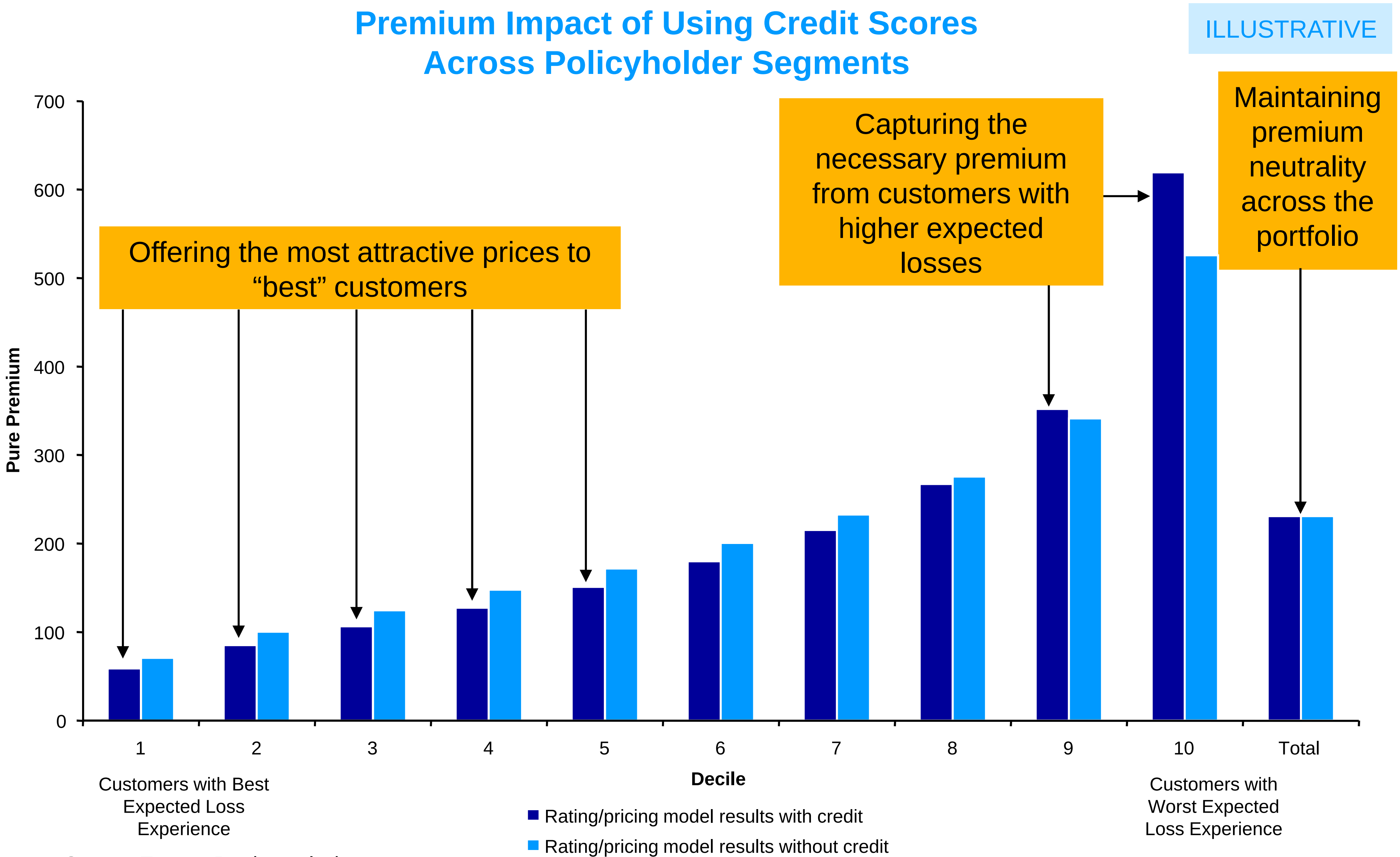
What would a 2% to 4% improvement in loss ratio be worth to you each year?

Source: A.M. Best; Tillinghast analysis.

Price optimization represents the next revolution in insurance pricing

Price optimization is...	The benefits are...
■ A process by which insurers can improve profitability ■ Pricing your product in a way that considers cost, competitive conditions and customer behaviors ■ A significant investment ■ A shift in mindset ■ A dynamic process	■ Understanding your marketplace better ■ Insight into how prices impact performance ■ Quantifiably balancing profits and market share ■ A stronger pricing governance framework ■ Ultimately, a sustainable increase in profitability

Predictive modeling with the use of credit-based insurance scoring — itself a powerful predictor of loss — exemplifies the opportunity to properly align pricing



Source: Towers Perrin analysis.

- The challenge is that as rating plans have become more sophisticated, the old ways of determining competitiveness are no longer adequate

The Challenge	One Solution
■ Understand how rates compare to the market and key competitors ■ Understand rating differences with key competitors by tier and individual factors ■ Understand the dispersion of competitors' rates and your position in the market ■ Identify pricing adjustments that will increase profitability and/or market share	**Competitive Market Analysis (CMA)** Three-part approach ■ Rating plan analysis ■ Competitor rate dispersion analysis ■ Pricing adjustment recommendations

By integrating price elasticity models and profit (cost) models, we aim to set prices that optimize the trade-off between the contribution per policy and the volume of business