Change • Challenge • Opportunity

Injury & Disability Schemes Seminar

12 - 14 November 2017 • Sofitel • Brisbane

Actuaries Institute

Premium System Design

Balancing Stakeholder Needs

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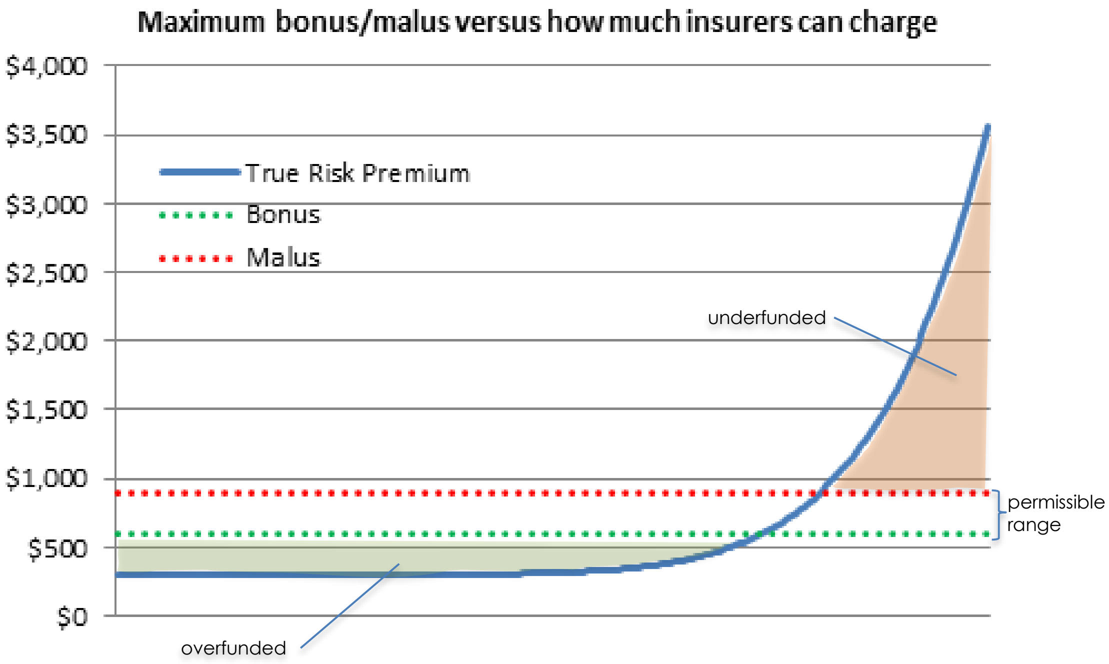
Need for Change

- High historical profitability of current scheme under scrutiny
- Background of rising premiums
- Imperative to keep premiums affordable, balanced and with need for competition to drive insurer efficiency and innovation
- Concerns with insurers dropping out of the market
- SIRA implemented two premium system mechanisms focused on improving competition and providing best value for policyholders

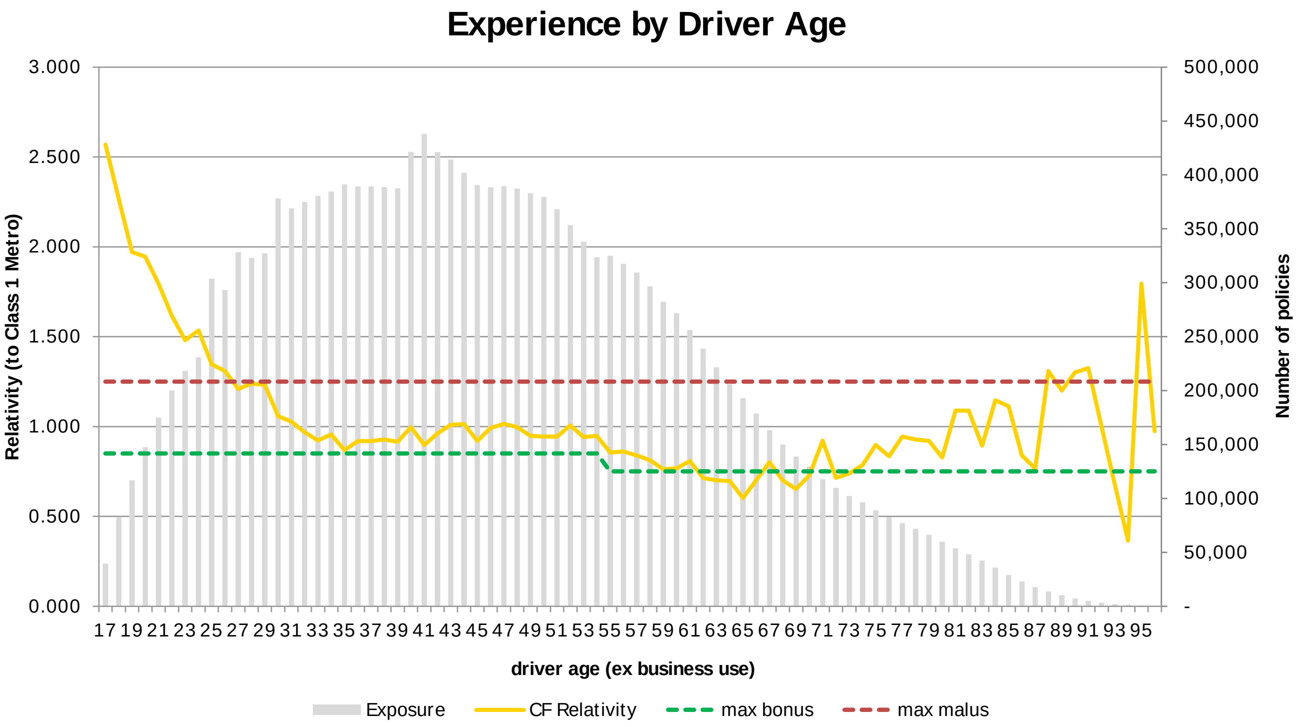
Mechanism #1: Risk Equalisation

- Current scheme
  - Partially community rated
  - Concept of "elastic gap"
  - Insurers able to risk rate between the bonus malus limits
  - Creates segments in the market that are extremely profitable or extremely unprofitable
  - Creates perverse incentive to not necessarily be the cheapest which impacts on insurer strategies



Risk Factor 1: Youngest driver age

Class 1 Metro claim frequency relativities by youngest driver age (average Class 1 Metro = 100%)
Based on exposure and claims experience over 2004 to 2013



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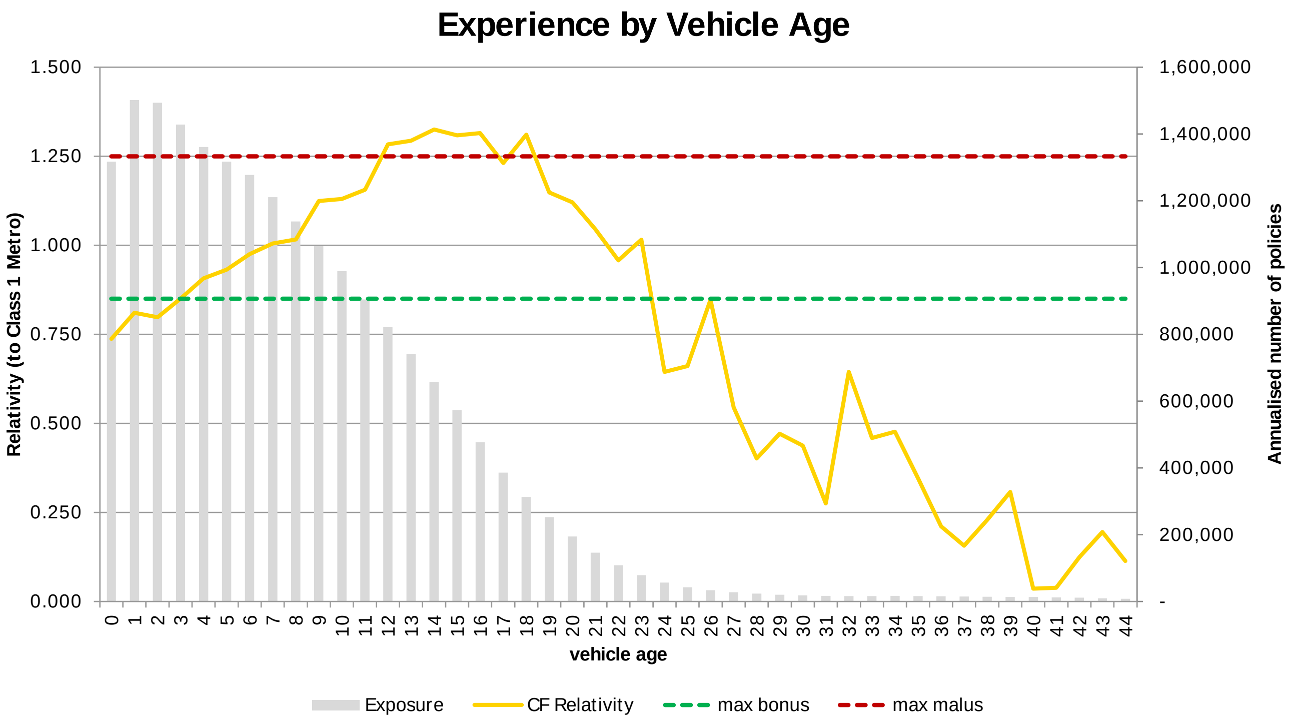
Risk Factor 2: Vehicle Age

Class 1 Metro claim frequency relativities by vehicle age (average Class 1 Metro = 100%) Based on exposure and claims experience over 2004 to 2013



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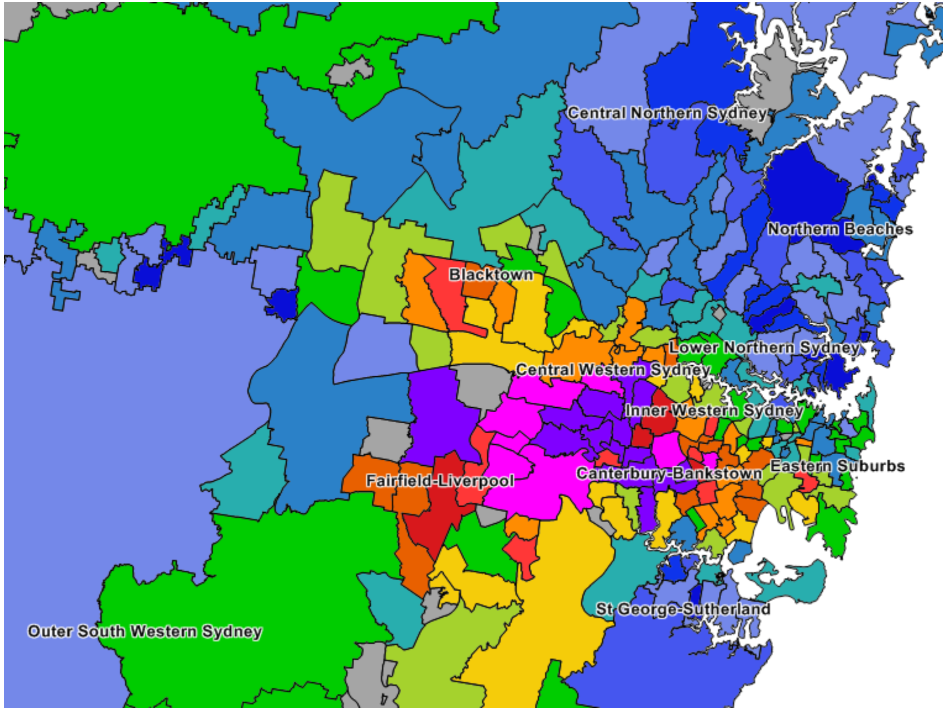
Risk Factor 3: Postcode

Cost per policy relativities by postcode (Class 1 Metro = 100%)
Based on exposure and claims experience over 2004 to 2013



Color by
Relative Bands

- a. Below 50%
- b. 50.0% to 55.0%
- c. 55.0% to 60.5%
- d. 60.5% to 66.6%
- e. 66.6% to 73.2%
- f. 73.2% to 80.5%
- g. 80.5% to 88.6%
- h. 88.6% to 97.4%
- i. 97.4% to 107.2%
- j. 107.2% to 117.9%
- k. 117.9% to 129.7%
- l. 129.7% to 142.7%
- m. 142.7% to 156.9%
- n. 156.9% to 175.0%
- o. Above 175%
- p. Exposure under 10,00

Unwinding Cross Subsidy with a REM

- Insurer retains full ownership of customer and risk (and reward)
- Improve competition for high risk policies
- Facilitates payments between insurers so that they receive an adjusted amount that better reflects the true level of risk
- Premiums paid by customers are not impacted, thereby preserving premium affordability
- Full incentive remains for insurer to contain claims costs
- A number of principles and objectives were considered in designing the REM
- Acknowledge added complexity to the system

REM principles

- Equalise the claims costs where there are pricing restrictions
  - Non-claim components like expenses, profit margin and individual insurer bonus malus strategy should not factor into assessment
- Extent of cross subsidisation is determined at an industry level, i.e. it should not allow for differences between individual insurers' performance arising from:
  - Ability to select risks within a segment
  - Claims management effectiveness
  - Operational efficiency
  - Differing levels of conservatism or optimism in pricing/reserving
- Intervention should not advantage or disadvantage any single insurer

Learnings

- Need for data, in particular policy data + matching to claims data
- No data is perfect
- Dealing with volatility in experience >> judgement required
- No perfect solution but gets most of the way there

- Insurer preference for
  - Certainty in REM amounts over hindsight corrections
  - As few REM buckets as possible to reduce complexity

How it works in practice

- Table illustrates Class 1 Metro REM amounts by risk segment
- Insurers not permitted to rate on postcode so more granularity was required
- Actual REM transfers are based on actual policies written by insurer = revenue certainty for insurers
- Adjustments to REM amounts to occur annually

Owner age	Vehicle age	Postcode relativity band: Below 70%	70% to 85%	85% to 105%	105% to 150%	Above 150%	Total
17-22	0	-$100	-$100	-$200	-$300	-$450	-$200
17-22	1-4	$50	$0	-$100	-$200	-$400	-$100
17-22	5-12	$0	-$100	-$200	-$350	-$750	-$250
17-22	13+	-$50	-$150	-$300	-$450	-$850	-$300
Sub total		$0	-$100	-$200	-$350	-$700	-$250
23-26	0	$0	$0	-$50	-$100	-$200	-$50
23-26	1-4	$150	$150	$50	$0	-$150	$50
23-26	5-12	$150	$100	$0	-$100	-$400	-$50
23-26	13+	$100	$50	-$50	-$150	-$450	-$100
Sub total		$150	$100	$0	-$100	-$350	-$50
27-54 & business use	0	$100	$100	$50	$0	-$100	$50
27-54 & business use	1-4	$100	$50	$0	-$50	-$200	$0
27-54 & business use	5-12	$100	$50	$0	-$100	-$200	$0
27-54 & business use	13+	$100	$100	$50	-$100	-$250	$0
Sub total		$100	$50	$0	-$50	-$200	$0
55+	0	$100	$100	$100	$50	$0	$100
55+	1-4	$100	$50	$50	$0	-$150	$50
55+	5-12	$100	$0	-$50	-$50	-$200	$0
55+	13+	$100	$50	$0	-$50	-$150	$0
Sub total		$100	$50	$0	-$50	-$150	$0
Total		$100	$50	$0	-$50	-$200	$0.000

Negative values indicate a withdrawal from the REM pool
Positive values indicate a contribution to the REM pool
REM amounts for Class 1 Metro policies written during 1 July 2017 and 30 November 2017, rounded to nearest $50

Practicalities

- Consultation with insurers
- Clearinghouse
- Guidelines, data submission and need for data veracity
- Business rules
- Trial run before commencement
- Audit

Current status

- REM commenced on 1st July 2017
- Early signs of increased competition
- More innovation in rating structures and distribution strategies
- REM extended to deal with other cross-subsidies e.g. motorcycle vehicle classes in the new NSW CTP Scheme

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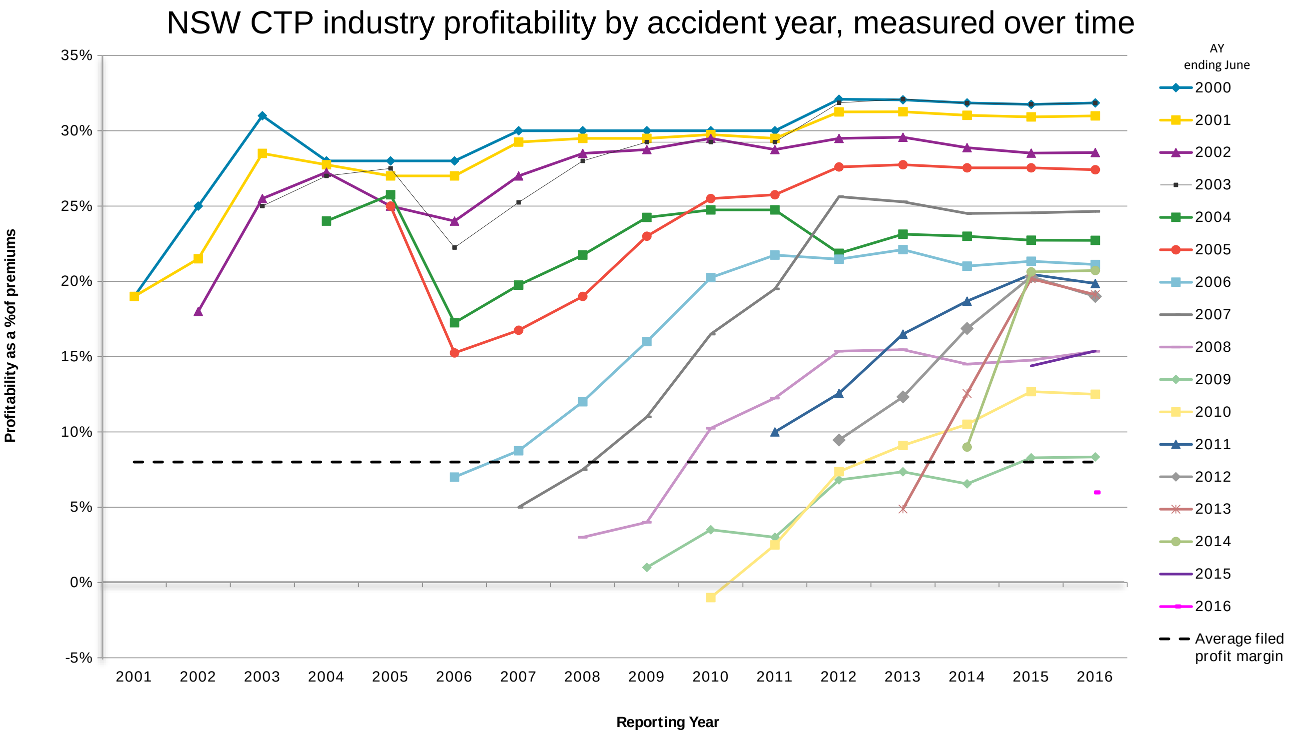
Mechanism #2: Profit Normalisation

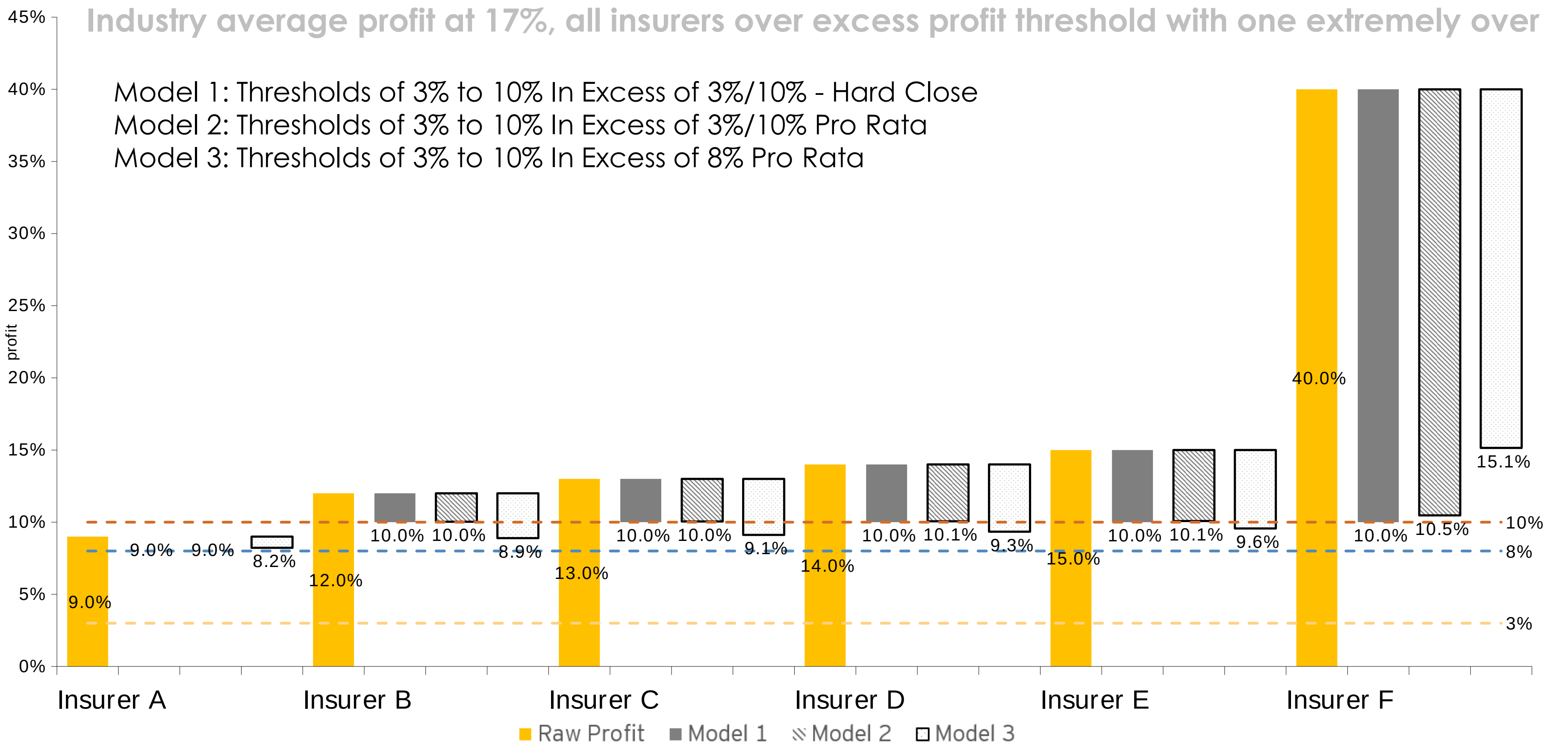
- Targeted at
  - Avoiding excessive profit
  - Mitigating uncertainty associated with new scheme costing
- Two-sided measure
- Last line of defence



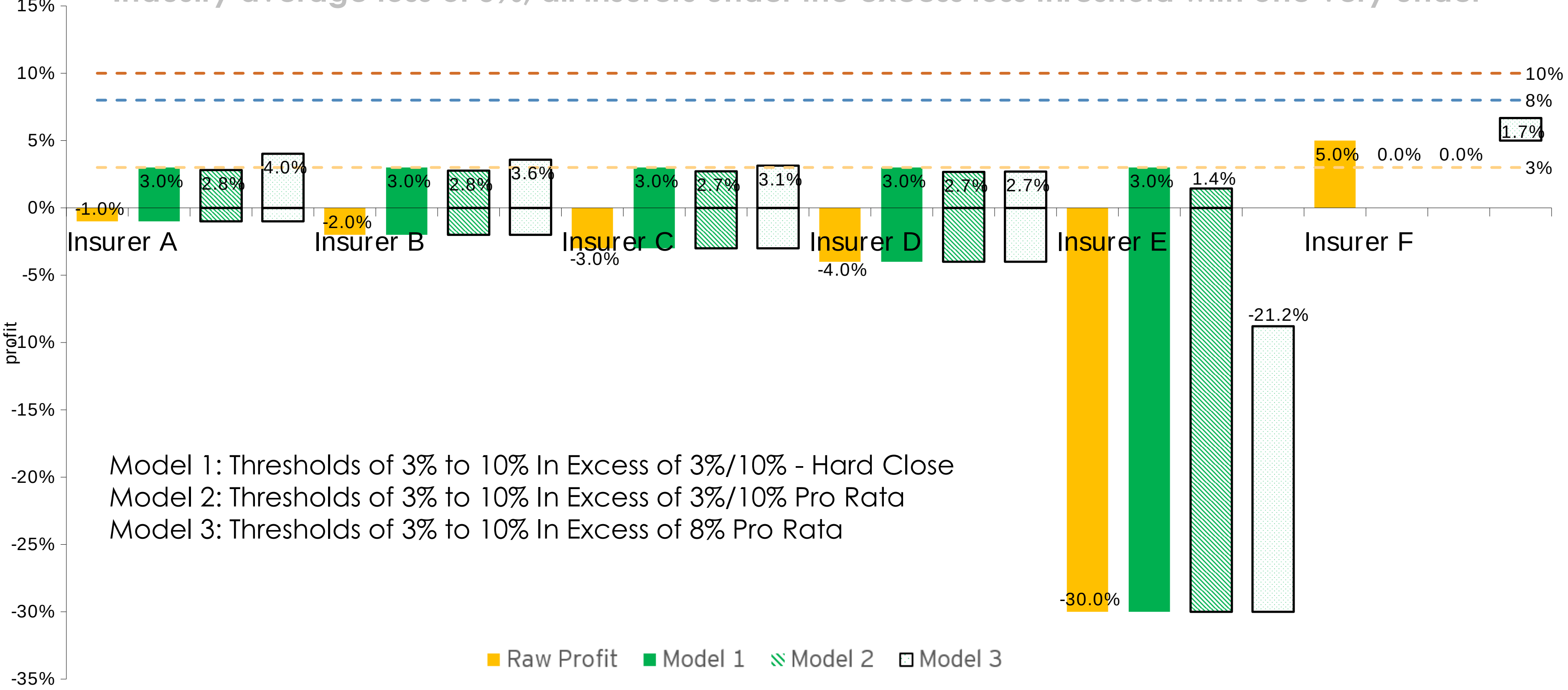
Process

- Investigated number of scenarios to illustrate various outcomes
  - Helped articulate the desired outcomes versus undesired outcomes

- Three models shown in the following slides
  - Model 1: Thresholds of 3% to 10% In Excess of 3%/10% - Hard Close
  - Model 2: Thresholds of 3% to 10% In Excess of 3%/10% Pro Rata
  - Model 3: Thresholds of 3% to 10% In Excess of 8% Pro Rata


Industry average profit at 17%, all insurers over excess profit threshold with one extremely over
Model 1: Thresholds of 3% to 10% In Excess of 3%/10% - Hard Close
Model 2: Thresholds of 3% to 10% In Excess of 3%/10% Pro Rata
Model 3: Thresholds of 3% to 10% In Excess of 8% Pro Rata
profit
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
9.0%
9.0%
9.0%
8.2%
12.0%
10.0%
10.0%
8.9%
13.0%
10.0%
10.0%
9.1%
14.0%
10.0%
10.1%
9.3%
15.0%
10.0%
10.1%
9.6%
40.0%
10.0%
10.5%
15.1%
10%
8%
3%
Insurer A
Insurer B
Insurer C
Insurer D
Insurer E
Insurer F
Raw Profit
Model 1
Model 2
Model 3

Industry average loss of 5%, all insurers under the excess loss threshold with one very under



Design

- Thresholds
- Innovation bonus
- (Selected) key principles
  - Excess profit or loss under the mechanism will be at the whole of industry level
  - The mechanism is not intended to change insurers' relative performance
  - The mechanism is not intended to worsen the position of an insurer who is below the excess loss threshold (even when there is a declared excess profit an industry level)
  - The mechanism should not discourage competition, innovation and efficiency
  - Excess profits will only be returned by insurers when there is a high level of certainty that the assessed Excess Profits will be realised by the Insurer (and vice versa for excessive losses)

Practicalities

- Consultation with insurers in design
- Excess Profit to be recouped from insurers via retrospective changes in past SIRA levies paid by insurers. This is returned to policyholders via lower SIRA levies charged in premiums (vice versa for compensating insurers for Excess Loss)
- Articulating detailed process in guidelines and practice notes
  - Challenges in measurement, e.g. how to account for different reinsurance arrangements, expense structures, REM outcomes for each insurer?
  - Challenges in design to prevent gaming by insurers
  - Defining innovation bonus qualification and measurement

Insurer Behaviour and Risks

- Insurer Behaviour
  - Increase in the number of risks attractive to insurers
  - Curb risk avoidance behaviours
  - Reduce concerns with having the cheapest maximum premium and hence less incentive for buffers in premiums
  - Retain incentive to innovate
- Risks
  - Transfer of costs from expenses to claims - SIRA to monitor
  - Unintended impact on insurer premium filing behaviours
  - "Irrational" strategies, e.g. an insurer drops prices to chase market share?

Conclusion

- SIRA implementing two new innovative premium system mechanisms aimed at improving market competitiveness yet restrain excessive profits and loss (in the environment of benefit reform)
- Whilst they add complexity to the market, overall SIRA's view that the benefits justify the costs and customers get a better outcome
  - Work in conjunction with other premium system changes, e.g. filed expense limits
- An improvement on similar mechanisms implemented in other markets, e.g. claims equalisation in private health insurance, regulation on excessive profit in motor insurance in Florida
- **Any questions?**