

Pricing for Selection and Anti-Selection

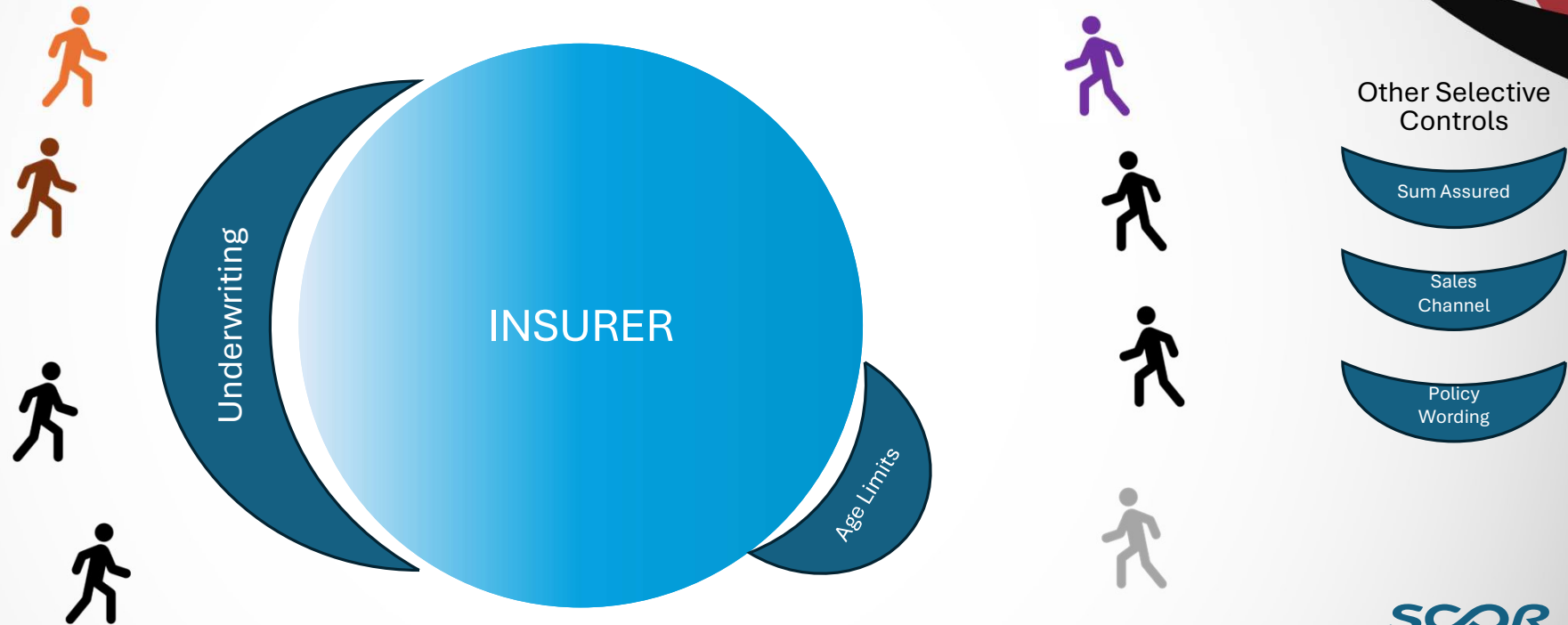
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SCOR

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Selection and Anti-Selection



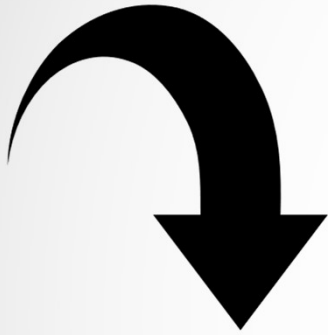
The Right Balance

This presentation objectives:

- *Inform & share*
- *Opine*
- *Develop*

...for the Singapore actuarial community

Agenda:



- *Low concern examples*
 - *Underwriting changes*
- *Medium concern/impact*
 - *Gender-neutral pricing*
 - *Embedding selective benefits*
- *Major concern/impact*
 - *US Post-Level Term*



- *Methodologies and strategies*

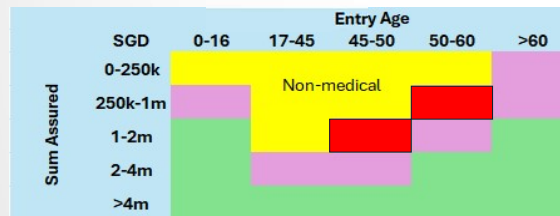
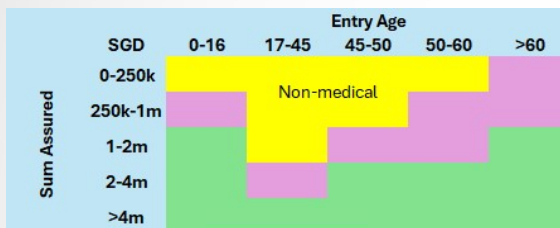


- *Looking to the future*



- *Question time*

NML Change



- Non-medical, application form
- Medical exam w/o lab tests
- Medical exam with lab/blood tests
- Extended non-medical

*No/minor market =>
deviation*

*Priceable with low
anti-selection risk*

*Market deviation =>
(first mover)*

*Priceable with
moderate anti-
selection risk*

Risk meter



Risk meter



Risk meter



UW rating scale change - UK

Risk meter



Before

BMI	Extra rating	% mix
<=28	-	80%
29-32	-	13%
33-34	+50%	4%
35-36	+100%	2%
37+	+150-300%	1%



Expected – gave 4.25% discount

BMI	Extra rating	% mix
<=28	-	80%
29-32	+25%	13%
33-34	+50%	4%
35-36	+100%	2%
37+	+150-300%	1%



Actual

BMI	Extra rating	% mix
<=28	-	87%
29-32	+25%	4%
33-34	+50%	5%
35-36	+100%	2%
37+	+150-300%	1%

Risk assessment:

- Almost all other insurers charging +25% for over 1 year
- Possible BMI boundary non-disclosure
- Priceable but underestimated existing anti-selection of other market movements

EU/UK gender-neutral pricing

2004 EU Directive (2004/113/EC) on Gender Equality

Opt-out clause

Article 5(2) allows Member States to permit differences related to sex in respect of insurance premiums and benefits:

- Where gender is a determining factor in the assessment of risk based on relevant and accurate **actuarial and statistical data** then proportionate differences in individual premiums or benefits are allowed*
- Data must be compiled, published and regularly updated*

ECJ judgment – 1 March 2011

Article 5(2) of Council Directive 2004/113/EC ... is invalid with effect from 21 December 2012

=> All forms of customers insurance now must be priced gender-neutral



EU/UK gender-neutral pricing

Risk meter



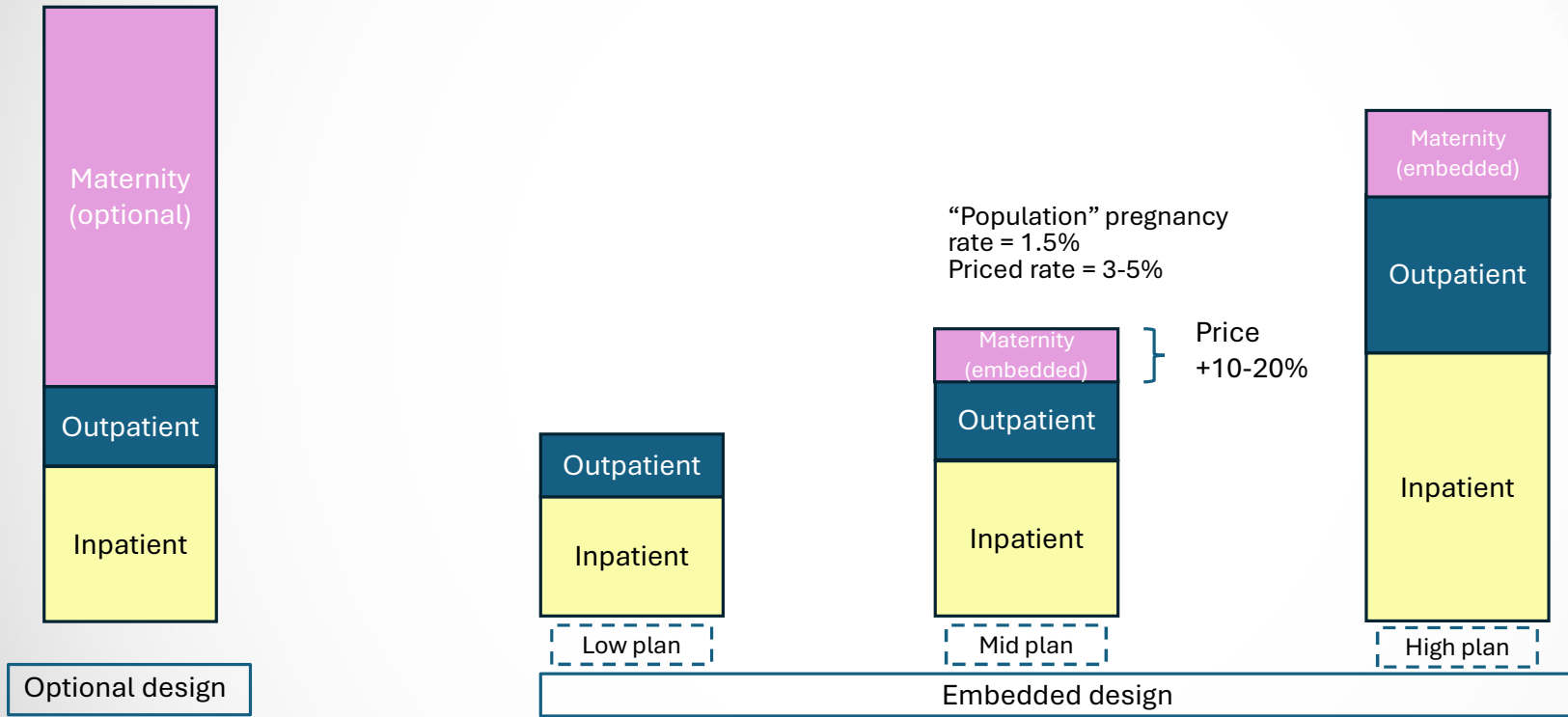
Risk meter



Key expected impacts for UK life insurance

FACTOR	OUTCOME	WHY
Shock lapse	<i>+2% lapses for less than 3 months</i>	<i>Level premium structure</i> <i>Short time window</i> <i>Few simple-issue products</i> <i>Commission-clawback for advisers</i>
Future gender mix	<i>Normalised within 1 year</i>	<i>Lack of comparability</i> <i>Purchase is more needs-based</i>

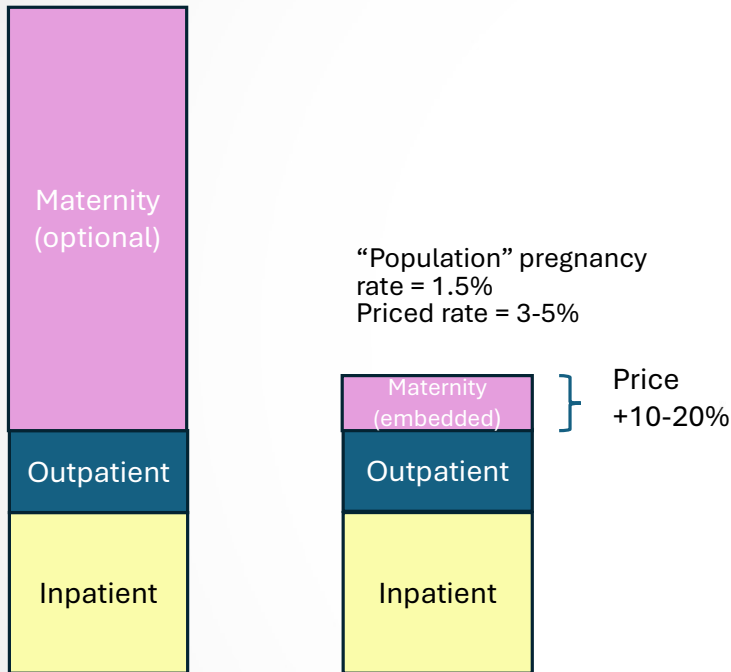
Embedding selective benefits



Notes:
Source: SCOR data



How did it go?



Variants	% Male	% Female
Low plan – no maternity	48%	52%
Higher plans – with maternity	31%	69%

Actual incidence rate = 15%
Experience 500%+ vs. priced

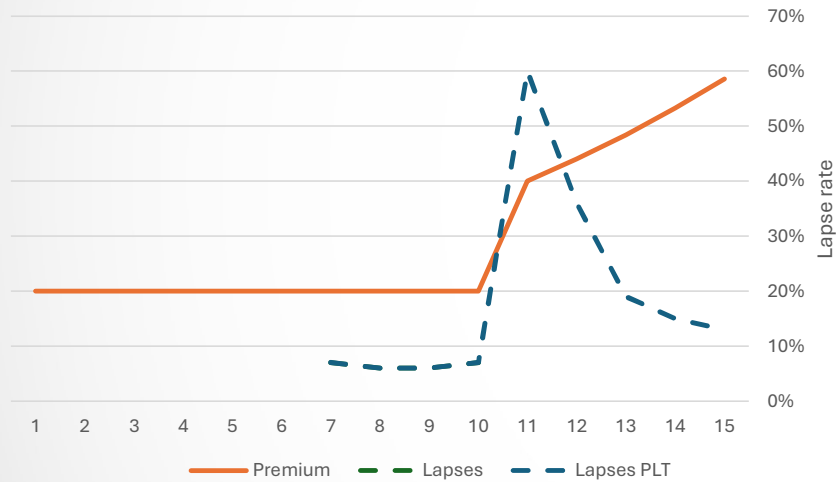
Increasing price creates vicious cycle of anti-selection

Risk meter

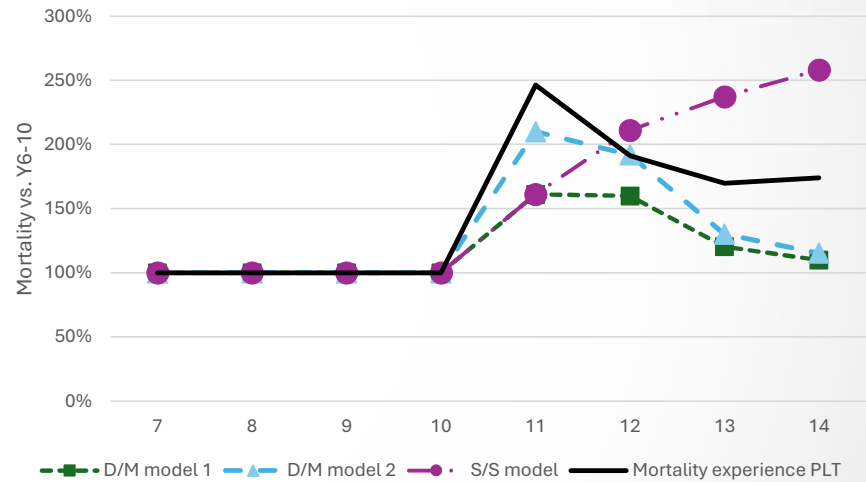


US Post-Level Term mortality

US PLT10 - Lapses - 2021 SoA report



US PLT10 - Mortality - 2021 SoA report



Notes:
Source: SOA report

Basic methodologies

For lapse/renewal anti-selection

Method	Description
Wild Guess	Pure actuarial judgement
Sophisticated Wild Guess	Attempted modelling, alternate data sources + significant judgement
Shapiro/Snyder (S/S)	Lapsers are fully select in perpetuity
Dukes/Macdonald (D/M)	Lapsers are fully select but with run-off over selection period to ultimate
Becker/Kitsos (B/K)	As D/M but with an additional excess claims risk allowance since the remaining portfolio is now relatively worse, with this excess unwinding over a longer assumed period

Axioms for assessing

Axiom	Application
Comparability	Availability of an immediately comparable option, e.g. cheaper products elsewhere
Complexity	Difficulty for a customer to find, exercise or understand
Magnitude of selective potential	How large the difference is How many other products/competitors offer
Time effects	How long customers have to judge their decision How long the market deviation/comparable choice exists
Customer elasticity	Customers looking to maximise value or other factors in decision
Awareness	Knowledge of potential to anti-select Assistance by sales channel

Selection and Anti-Selection

Looking to the future – potential anti-selection in existing products

Risk meter



Multipay CI lapse experience post-claim

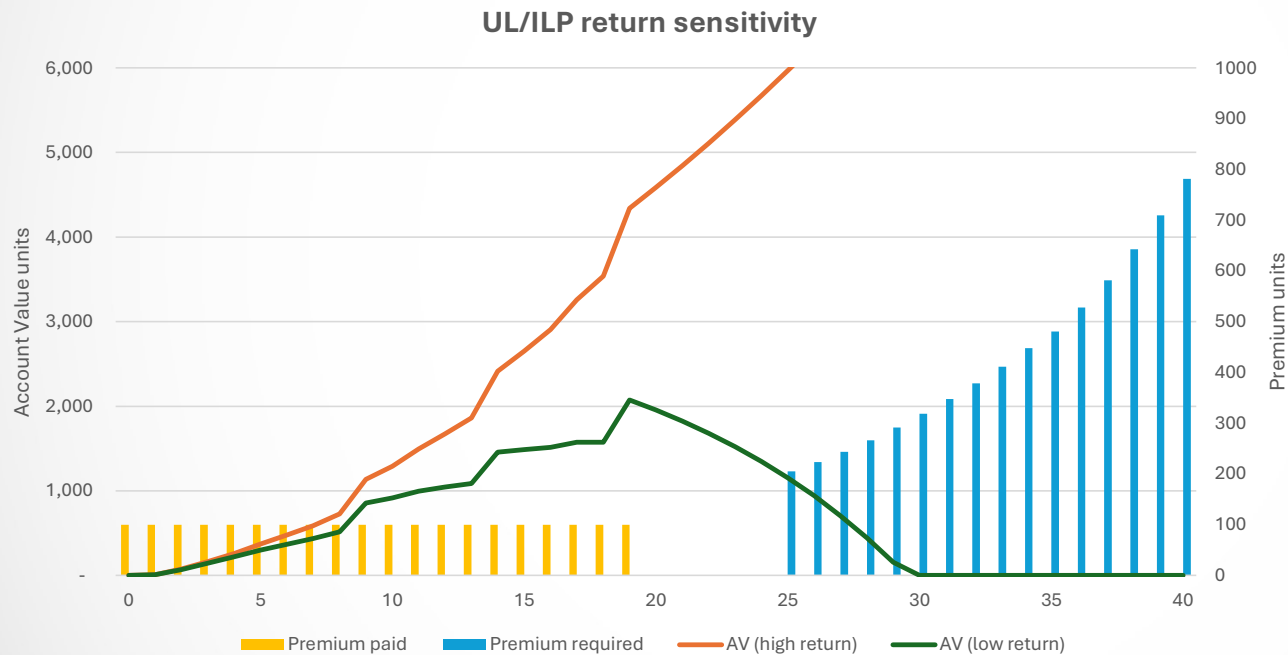
Risk meter



COI charging structure in ILP/UL sustainability

UL/ILP sustainability

Risk meter



- How sensitive to investment return?
- Assessment of dynamic risk
- Will anti-selective pricing models work here?

Notes:
Source: SCOR data

Selection and Anti-Selection

Question time



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