

FREE MARKET PRICING GIRO WORKING PARTY PAPER 2007/08

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EXECUTIVE SUMMARY

Free Market Pricing is generally the most efficient

The working group believes that the most efficient outcomes in terms of price competitiveness (for those who are not excluded), capital allocation, market stability and product innovation can generally be achieved through ‘free market pricing’.

However, for certain personal lines insurance products, society may from time to time regard insurance premium rate ‘discrimination’ or ‘differentiation’ (or declinature of cover) based on age, gender, sexual orientation, disability or postcode to be unacceptable. This argument can sometimes be maintained from an equity or fairness approach. In other cases, it can be maintained from a ‘common good’ or political acceptability point of view. Some opponents of ‘free market pricing’ point to the case of healthcare insurance in the United States, where over 15% of people are now uninsured¹.

Response to an equity / fairness argument against free market pricing

If the argument against ‘free market pricing’ is purely on the basis of fairness / equity, then the counter argument is based on statistical / actuarial analysis. In this case, ‘discrimination’ might then be allowed subject to actuarial / statistical justification. The question then is how this justification should be demonstrated. Possibilities range from confidential justifications by individual insurers to the regulator - through to publicly available analyses based on pooled data. Market incumbents might in practice argue in favour of confidentiality. Those favouring transparency might point to the encouragement of greater levels of new market entrants. Our working party had mixed views on this difficult topic.

Response to a “common good” argument against free market pricing

If the argument against ‘free market pricing’ and hence in favour of some form of rating regulation is based on a ‘common good’ stance, then it could be argued that no amount of actuarial / statistical justification would sway the case. However, it is the view of the working party that:

- (i) Such interventions should be the exception rather than the rule.
- (ii) Regulation should be specific rather than broad based (e.g. “*restrict price differentiation for third party only motor insurance above age 65*”, rather than “*age can not be used as a rating factor in motor insurance*”).
- (iii) Where broad ranging insurance premium rating or declinature restrictions apply, society should accept the potential need for market corrections (e.g. risk equalisation) in order to maintain market stability.
- (iv) All consequences (both intended and unintended) on different groups of stakeholders (customers, insurers, government and society as a whole) should be considered before the introduction of any such regulation.

¹ Department of Health and Human Services Office. (2005). *Overview of the Uninsured in the United States: An analysis of the 2005 Current Population Survey*, <http://aspe.hhs.gov/health/reports/05/uninsured-cps/ib.pdf>

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1. BACKGROUND

1.1. Terms of Reference of this working party

The terms of reference of the working party were to articulate the pros and cons for insurers and consumers of different premium rating regulatory regimes, particularly in the context of current political developments in the UK Equality agenda. Our study has been limited to personal lines general insurance, such as private motor insurance, travel insurance and private healthcare insurance. Our approach has been to combine theoretical analysis comparing different ideological pricing models (such as free market pricing with all pay the same) (Section 2) with practical analysis of the UK market (Sections 3-5) and case studies from around the globe (Appendix A).

1.2. Recent regulatory developments

1.2.1. EU Equality Directive

The Free Market Pricing Working Party during 2007/08 followed on the research studies carried out by the EU Equality Directive Working Party during 2006/07. This working party liaised with HM Treasury, which had the responsibility of responding to the EU Equality Directive in respect of gender discrimination in insurance pricing, in so far as the use of gender applies in the assessment of insurance risks. The UK government response was in respect of the Sex Discrimination Act 1975 and the Sex Discrimination (Northern Ireland) Order 1976.

The HM Treasury Guidance Note was finally published in March 2008², following several drafts and a period of consultation, including a contribution from the Profession³. The Guidance Note set the tone for the UK life and general insurance industry, as indicated below.

This guidance is issued by HM Treasury in accordance with section 45(3)(a) of the Sex Discrimination Act 1975 and Article 46(3) of the Sex Discrimination (Northern Ireland) Order 1976 (as amended by the Sex Discrimination (Amendment of Legislation) Regulations 2008). The guidance applies to England, Wales, Scotland and Northern Ireland. Section 45(3)(a) of the 1975 Act (and Article 46(3) of the 1976 Order) permits discrimination in insurance between men and women in relation to premiums or benefits, under contracts entered into after 5 April 2008, subject to the conditions set out in the legislation.

One condition is that the use of sex as a factor in the assessment of risk is based on **relevant and accurate actuarial and statistical data**; a second condition is that the data must be compiled, published (whether in full or summary form) and regularly updated in accordance with guidance issued by the Treasury. This guidance note constitutes the Treasury guidance on how data should be compiled, published and regularly updated.

We note that similar legislation has also been put through in Ireland⁴.

1.2.2. The UK Equality Bill

In the 2005 elections, the Labour government manifesto included an Equality Bill. Following the subsequent Labour victory, the Discrimination Law Review published a consultation paper on the

² HM Treasury. (2008). *Guidance on the Publication of Data Associated with the Use of Gender in the Assessment of Insurance Risks*, (March 2008), HM Treasury, London, published via http://www.hm-treasury.gov.uk/media/8/C/consult_insurance070308.pdf

³ http://www.actuaries.org.uk/_data/assets/pdf_file/0006/19977/HMT_gender_insurance_resp.pdf

⁴ <http://www.justice.ie/en/JELR/GenderInsRpt.pdf/Files/GenderInsRpt.pdf>
<http://www.oireachtas.ie/documents/bills28/bills/2006/2006/b20c06d.pdf>

proposals for a single Equality Bill for Great Britain in 2007⁵ and the Government Equalities Office has recently published a high-level paper taking this process forward⁶. The proposed single Equality Bill would harmonise and simplify current acts that, at present, protect the public from different forms of discriminations and form one single bill. It would also contain powers to outlaw unjustifiable age discrimination by those providing goods, facilities and services in the future.

Areas identified as being of concern in relation to financial services are:

1. Refused access and/or tighter underwriting above or below certain ages; and
2. Age bands such that premium rates jump dramatically on moving from one band to another.

It is still not clear as to whether financial services will be exempted from this legislation broadly and whether the focus will be on voluntary measures such as sign-posting, or whether exceptions from legislation will only be allowed under certain circumstances. This will become clearer in the next year.

Further, under a legislative solution we understand that should a person feel that they have been unjustifiably discriminated against due to age then they will be able to bring a civil case against the individual firm involved. This would involve a claim for damages and may lead to an individual actuary for that firm having to defend in the civil court the justification for the rates quoted. We note that a similar situation is already possible in relation to gender discrimination.

Appendix A.2. outlines the key features of the equivalent legislation in Ireland and relevant cases that have been brought to date.

In this context the Profession recently issued a commentary⁷ highlighting some of the challenges of a legislative approach (cf Appendix B). Further, the practical analysis sections of this paper have an age related focus and cover investigations into market failures (Section 3), practical considerations of age discrimination legislation (Section 4) and the impact of removing age of driver from rating structures (Section 5).

1.2.3. Further EU proposals

A Proposal for a Council Directive on implementing the principle of equal treatment between persons irrespective of religion or belief, disability, age or sexual orientation was issued by the Commission of the European Communities on 2/07/2008⁸. The memo⁹ issued by the

⁵ 'Discrimination Law Review: A Framework for Fairness: Proposals for a Single Equality Bill for Great Britain – A consultation paper'

<http://www.communities.gov.uk/publications/communities/frameworkforfairnessconsultation>

⁶ "Framework for a Fairer Future – The Equality Bill", <http://www.equalities.gov.uk/publications/Framework%20FAIRER%20FUTURE.pdf>

⁷ http://www.actuaries.org.uk/_data/assets/pdf_file/0007/137185/EqualityBill_comments_20080813.pdf

⁸ Commission of the European Communities. (2nd July 2008).

Proposal for a COUNCIL DIRECTIVE on implementing the principle of equal treatment between persons irrespective of religion or belief, disability, age or sexual orientation, {SEC(2008) 2180}

{SEC(2008) 2181}, Commission of the European Communities, published via <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2008:0426:FIN:EN:PDF>

Commission in advance of the paper refers to the over-arching objectives for implementation of new legislation:

“Are there any exemptions to the principle of equal treatment? In certain cases, differential treatment may be justified. For instance, differences of treatment on grounds of age laid down in national laws will continue to be admissible if justified by a legitimate aim and if the means are appropriate and necessary. For instance, the Directive will not prevent the fixing of a specific age for access to education and to certain goods and services.”

The Initial Legislative Document ¹⁰ refers directly to insurance and banking services:

*“A **special rule is added for insurance and banking services**, in recognition of the fact that age and disability can be an essential element of the assessment of risk for certain products, and therefore of price. If insurers are not allowed to take age and disability into account at all, the additional costs will have to be entirely borne by the rest of the "pool" of those insured, which would result in higher overall costs and lower availability of cover for consumers. The use of age and disability in the assessment of risk must be based on accurate data and statistics.”*

There is a clear recognition of the special circumstances in financial services and particularly insurance, and a willingness to engage with industry bodies. The Proposal states that where:

“(15) Actuarial and risk factors related to disability and to age are used in the provision of insurance, banking and other financial services. These should not be regarded as constituting discrimination where the factors are shown to be key factors for the assessment of risk.”

However, the Proposal is also somewhat less prescriptive than the gender directive and does not, for instance, require publication of data. The draft uses broad generic terms and language to describe potential financial services application such as "proportionate", "assessment of risk", "relevant actuarial or statistical data".

“7. Notwithstanding paragraph 2, in the provision of financial services Member States may permit proportionate differences in treatment where, for the product in question, the use of age or disability is a key factor in the assessment of risk based on relevant and accurate actuarial or statistical data.”

The assumptions and processes envisaged here will need to be defined, scrutinised and clearly understood in their implications to support drafting the final legislation. The document refers to the Commission’s intention to:

⁹ Commission of the European Communities. (2nd July 2008). *Commission proposal to ensure equal treatment beyond the workplace*, MEMO/08/461, Commission of the European Communities, published via <http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/08/461&format=DOC&aged=0&language=EN&guiLanguage=en>

¹⁰ Commission of the European Communities, (2nd July 2008), Initial Legislative Document, Commission of the European Communities, published via <http://www.europarl.europa.eu/oeil/resume.jsp?id=5661642&eventId=1042281&backToCaller=NO&language=en>

“initiate a dialogue with the insurance and banking industry together with other relevant stakeholders to achieve a better common understanding of the areas where age or disability are relevant factors for the design and pricing of the products offered in these sectors.”

Industry participation in this dialogue will be critical to support the Commission and its UK stakeholders (e.g., HM Treasury, Financial Services Authority) in realising policy and legislative objectives.

1.3. Societal Factors

The Oxford English Dictionary defines the verb ‘to differentiate’ as *“to recognise or identify as different”*, whereas ‘to discriminate’ is defined as *“to make an unjust distinction in the treatment of different categories of people, especially on grounds of race, sex or age”*.

Customer segmentation in the form of targeted price differentiation is carried out in most industries, for example supermarkets charge different prices for the same item in stores in different locations and have loss leaders. However, the terrain of the ‘differentiate’ or ‘discriminate’ question is particularly problematic and challenging for insurers.

Insurance underwriting involves identifying, modelling, assessing and evaluating risk. Some commentators suggest that prohibiting the use of risk selection, including via premium pricing and rating structures, effectively disables insurers and creates a deficit. They argue that the result can adversely affect the stability of the market and needs to be remedied either by charging the insured community or via Government action to share the burden. On the other hand, some would contend that insurance companies should provide a politically acceptable service to the general public, which could argue against ‘red lining’, ‘no claims discounts’, ‘post-claims experience rating’, ‘disability status differentiation’, ‘race differentiation’ and other risk rating practices that may be deemed to be against the public interest.

In practice, ‘Society’ decides if a premium rating ‘differentiation’ factor is actually a ‘discrimination’ factor. Society also decides on the politically acceptable forms of insurance model, as far as rateable risk groups are concerned. The political aspects may take account of the welfare effects of premium rate discrimination (also known as risk selection).

In the past race, was considered an appropriate differentiator for separating data into homogeneous groups. Society no longer considers that differentiation appropriate and would refer to it as discrimination. The same can be said for religion if it was used as a differentiator for rating purposes. The fact that it can not be used as a rating factor does not mean that if data was homogenized using it as a factor it would not give rise to groupings that showed different risk costs across groups separated by that factor. Society has also generally determined that proxy rating factors for ‘race’ are also politically unacceptable, eg colour of skin would be a proxy for race and is not acceptable as a rating factor. The offending rating proxies in some jurisdictions have included ‘postcode’ and ‘credit scores’ (e.g. with homeowners insurance in the United States)^{11, 12}. More detail is given in Appendix A.1.

¹¹ Funk, Josh. (2007). *Lawsuit: State discriminated against blacks with insurance choice*, published in JournalStar.com

via <http://www.journalstar.com/articles/2007/11/05/news/nebraska/doc472e5be94739f900866308.txt>

¹² Whitaker, Alfonza. (2008). *Nebraska Equal Opportunity Commission to address Discrimination in Property Insurance*, Nebraska State - Nebraska Equal Opportunity Commission, USA, published via <http://www.neoc.ne.gov/edu/insurance.htm>.

The practice of ‘Red-lining’ is cited by many commentators as an example of how “*race has long affected and continues to affect the policies and practices of the insurance industry*”¹³. In the example of the North American insurance industry the definition of the problem (and the remedies) articulated by the Federal legislature were deliberately broad in their scope:

“ ‘Redlining’ means a pervasive and persistent policy of discrimination, whether in the form of differences in rates charged, policy applications denied, policy cancellations, absence of offices or agents, employment practices or any other indicia of a desire not to do business in any area defined by a population of African Americans, Latinos, Asians, or low income persons” (Georgia House of Representatives, 14/01/1997)

In the case of the ‘race’ factor (or premium rating proxies correlated with race) with life and private motor insurance policies, there have been several class action law suits, resulting in rulings and punitive fines against the life and private motor insurance companies^{14, 15, 16, 17, 18}.

Another example is, that for life insurance rating, the use of occupation is a valid discriminator. However, adverse rating of some occupations is not seen as socially acceptable and so society may adjust that rating, eg soldiers in war zones have their additional risk premium paid by the state. Thus society/state may intervene in a rating differentiator either by saying no or compensating those it considers as being discriminated.

Occupation is also an interesting factor to consider as a potential proxy factor for gender, which means there might be some situations and products where occupation cannot be used as a rating factor, e.g. Homemaker

Increasing customer segmentation and classification, by reducing the cross-subsidization among low risk and high risk drivers, may easily turn into social exclusion. This may call in question the right to mobility of some citizens¹⁹. Several authors have recently dealt with this problem, especially with reference to countries where the differences between low risk and high risk rates are particularly pronounced. For example:

¹³ Squires, Gregory D. (2003). Racial profiling, insurance style: Insurance redlining and the uneven development of metropolitan areas, *Journal of Urban Affairs*, vol. 25, no4, pp. 391-410, published by Blackwell Publishers, Malden, MA, USA

¹⁴ Claims-Portal. (2006). *Nationwide Race Discrimination Suit Filed against GEICO*, published via <http://www.claims-portal.com/npps/story.cfm?nppage=1642>

¹⁵ InjuryBoard. (2002). *Life Insurance Company Settles Racial Discrimination Lawsuit for \$55 Million*, published via <http://www.injuryboard.com/national-news/life-insurance-company.aspx?googleid=26554>

¹⁶ My3Cents. (2007). *Blacks Sue GEICO For Race Discrimination – service*, published via <http://www.my3cents.com/showReview.cgi?id=19340>

¹⁷ RiskProf. (2006). *Blacks Sue GEICO For Race Discrimination*, published via http://riskprof.typepad.com/tort/2006/04/geico_sued_for_.html

¹⁸ Washington State. (2002). *Washington Joins \$27 Million Racial Discrimination Settlement*, Washington State - Office of the Insurance Commissioner, USA, published via <http://www.insurance.wa.gov/news/dynamic/newsreleasedetail.asp?rcdNum=340>.

¹⁹ Scalera, Domenico and Zazzar, Alberto. (2005). “*From regulation to free market: the experience of the European motor insurance market*”, Università del Sannio Università Politecnica delle Marche J.E.L. code: G22, L11, L50, published via <http://dea.univpm.it/quaderni/pdf/205.pdf>

- (a) European Parliament (2001) in respect of Finland²⁰
- (b) Meyer (2000) in respect of Germany²¹
- (c) Buzzacchi and Siri (2002) in respect of Italy²²
- (d) Smith and Wright (1992) in respect of the United States²³

The approach taken by the insurer management team on premium rating differentiation and the societal factors will need to be aligned with the insurer's stated approach on ethics and corporate social responsibility. Alignment will be required with the views of the Board of Directors, who are responsible for corporate governance and public accountability. Enterprise risk management, which should be embedded throughout the organisation, should encompass the external sources of risk, including the legal, political and social risks²⁴.

1.4. The History of Personal Lines Insurance Premium Rating in the UK

Whilst the current rating environment in the UK is essentially a Free Market Pricing one, it is useful to reflect on the fact that this has not always been the case.

The historical perspective on personal lines insurance premium rating has been the subject of extensive research and study by GIRO working parties in recent years. These studies culminated in the GRIP report²⁵. As such we have just brought out a high-level summary of the historical developments here. Specific references to sections in the GRIP report are made below in respect of particular personal lines classes of business.

1.4.1. Private Motor Insurance

1960s

- Tariff Basis (GRIP §2.12-2.14)

1970s

- Qualitative Underwriting (GRIP §2.15-2.16)

²⁰ European Parliament. (2001). "Written question E2117/00", *Official Journal of the European Communities*, C89E.

²¹ Meyer U. (2000). Third party motor insurance in Europe. Comparative study of the economic-statistical situation, in BdV (ed.), *Tariffs in Automobile Liability Insurance*, EU Project Final Report.

²² Buzzacchi L. and M. Siri (2002), *Efficienza ed equità nell'assicurazione r.c.a.: riregolamentare per liberalizzare?*, Mercato, Concorrenza, Regole, IV (3), 413-54

²³ Smith E. and R. Wright (1992). *Why is automobile insurance in Philadelphia so damn expensive?*, *American Economic Review*, 82 (4), 756-72.

²⁴ Tripp, Michael et al. (2008). *Enterprise Risk Management from the General Insurance Actuarial Perspective*, sessional paper presented at the Institute of Actuaries, London http://www.actuaries.org.uk/__data/assets/pdf_file/0017/132038/sm20080428.pdf

²⁵ Anderson, Duncan et al. (2007). *GRIP (General Insurance Premium Rating Issues Working Party) Report*, Institute of Actuaries, London, published via http://www.actuaries.org.uk/__data/assets/pdf_file/0008/20051/grip_report_jan07.pdf

Early 1980s

- Paper by Coutts (1982)²⁶ on motor premium rating techniques, including:
 - (a) Small number of Policyholder Age Groups
 - (b) Small number of Vehicle Groups
 - (c) No Gender Difference
 - (d) “Points” System

Late 1980s / Early 1990s

- Paper by Brockman and Wright (1992)²⁷ on statistical motor premium rating techniques, including
 - (a) Multi-factor approach, using generalised linear models
 - (b) Multiplicative models with Poisson and Gamma error structure
 - (c) Modelling the dependence of time

Mid to Late 1990s

- Paper by Anderson et al. (1999)²⁸ on vehicle postcode zoning in personal line rating techniques for postcode grouping and analysis, including:
 - (a) Weighted distance methods
 - (b) Spatial model method
 - (c) Modern heuristic method

2000s

- GRIP
- Pay as You Drive initiatives
- Motor Rating Factors (as listed in GRIP §D17)

Factors not Used in UK

- Credit Score (as per GRIP §D203)

Niche products as a positive example of discrimination:

- Products that target customers with a message along the lines of “why pay for bad drivers?”. For example, Lady Driver, Second Car Lady Driver, 50+ and full NCD.
- At the other end of the spectrum, some private motor insurance products target higher risk customers and, by specialising, offer a competitive rate.

²⁶ Coutts, Stewart. (1982). *Motor Premium Rating*, Institute of Actuaries Students Society, Institute of Actuaries, London, published via http://www.actuaries.org.uk/__data/assets/pdf_file/0020/19730/motor.pdf

²⁷ Brockman, M.J. and Wright T.S. (1992). *Statistical Motor Rating: Making Effective Use Of Your Data*, Journal of the Institute of Actuaries, [JIA] (1992) 119: 457-543, published via http://www.actuaries.org.uk/__data/assets/pdf_file/0006/25458/0457-0543.pdf

²⁸ Anderson, Duncan et al. (1999). *Vehicle Postcode Zoning in Personal Lines Rating*, General Insurance Convention 1999, Institute of Actuaries, London, published via http://www.actuaries.org.uk/__data/assets/pdf_file/0004/26608/0173-0205.pdf

1.4.2. Household Insurance

1960s and 1970s

- Tariff Basis
- The position was summarised in the Monopolies Commission report (1972)²⁹.. on “Fire Insurance: Report on the Supply of Fire Insurance”

2000s

- Household Rating Factors (as listed in GRIP §D17)
- Increased focus on geographical rating

1.4.3. Healthcare Insurance

1980s

- Paper by Orros and Webber (1988)³⁰ on healthcare insurance premium rating techniques for individual and group business. The techniques included:
 - (a) Socially acceptable rating factors for individual purchase units
 - (b) Rating pool methodology for small groups
 - (c) Experience rating methods for large groups

2000s

- Market incumbents generally use unisex rates and smoothing across family groups
- Some new market entrants use free market pricing, including individual life rates based on several risk differentiators, including age, gender, family status, postcode, claims history and health status profile.

1.4.4. Travel Insurance

1980s

- Historically the nature of the sale meant that a simple rating structure was necessary, minimizing the use of many rating factors

1990s

- Shift from single trip to annual policies increased importance of rating

2000s

- Internet / computerization drives greater sophistication/innovation

²⁹ The Monopolies Commission. (1972). *Fire Insurance: Report on the Supply of Fire Insurance*, The House of Commons, printed by Her Majesty's Stationery Office, London and now published by The Competition Commission at http://www MMC.gov.uk/rep_pub/reports/1970_1975/065fire.htm

³⁰ Orros, George and Webber, James. (1988). *Medical Expenses Insurance – An Actuarial Review*, JIA 115, pp. 169-269, Institute of Actuaries, London, published via http://www.actuaries.org.uk/_data/assets/pdf_file/0005/24881/0169-0269.pdf

1.4.5. Creditor (PPI) Insurance

2000s

- Still Mostly Flat Rate for All, though some insurers moving to age/risk rated cover

The GRIP report provided the following summary of the historical perspective

Class of Business	Category	Tariff	Quantitative Underwriting	Cost Plus	Distribution	Industrial
UK Personal Motor	1960s	↔				
	1970s		↔			
	1980s			↔		
	1990s			↔	↔	
	Now				↔	↔
Indian Motor Market - Now		↔				
UK Domestic Household					↔	↔
Pet				↔		
Travel				↔	↔	
Creditor					↔	
Motor Vehicle Breakdown				↔		
Home Response		↔				
Commercial Motor	Small Van				↔	↔
	Small Fleet			↔		
	Large Fleet		↔			
Commercial Property	SME		↔	↔		
	Other		↔			
Pecuniary Loss	SME		↔	↔		
	Other		↔			
General Liability	SME		↔	↔		
	Other		↔			
Professional Indemnity	SME		↔	↔		
	Other		↔			
D&O			↔	↔		
Marine			↔	↔		
Aviation			↔	↔		
Medical Malpractice			↔	↔		
Facultative Reinsurance			↔	↔		
Treaty Reinsurance			↔	↔		
Commercial Crime			↔	↔		
Bankers Blanket Bond			↔	↔		

2. COMPARING IDEOLOGICAL PRICING MODELS

2.1. Introduction to the models

In this section we compare three ideological models:

1. **‘All Pay the Same’** – all insured lives should literally all pay the same premium rate. This model needs to be combined with ‘open enrolment’ and/or ‘Risk equalisation’ regulations in certain situations to ensure it is effective.

An example of an **‘All pay the same’** model is the **‘community rating’** system operated in the Irish health insurance market in accordance with section 7 of the Health Insurance Act 2004. The Irish government’s citizens’ information website defines community rating as:

“Community Rating means that the insurance company must charge the same rate for a given level of service, regardless of age, sex or health status. So, all adults pay the same amount for the same benefits. Unlike motor insurance or life insurance, matters such as age, sex, sexual orientation, health or past record of claims do not affect the price charged for insurance”³¹

By **‘open enrolment’** we mean that insurers must, except in very specific and limited circumstances, accept all risks presenting as new business, and may not refuse to renew cover for existing policyholders.

By **‘risk equalisation’** we mean a market-wide mechanism, involving financial transfers between insurers to compensate those with higher than average risk profiles, when there is a restriction on the use of risk based pricing.

We also touch in some sections below on a slightly less restrictive version of this model where premium rates can be variable except in relation to specific risk factors (e.g. race, age or gender).

2. **‘Free Market Competition’** - some would argue that this has parallels with the Darwinian notion of the “survival of the fittest” and seeks to realise ever greater risk differentiation. There are several definitions of free market pricing. Four of these definitions that are worthy of note and discussion are shown below.

- o A *‘free market’* is a market in which prices of goods and services are arranged completely by the mutual consent of sellers and buyers. By definition³², in a free market environment buyers and sellers do not coerce or mislead each other nor are they coerced by a third party. In the aggregate, the effect of these decisions en masse is described by the law of supply and demand. Free markets contrast sharply with controlled markets, in which governments directly or indirectly regulate prices or supplies, distorting market signals. In the marketplace, the price of a good or service helps to quantify its value to consumers and thus balance it against other goods and services. In a free market, this relationship between price and value is clearer than in a controlled market. Through competition between vendors for the provision of products and services, prices tend to decrease, and quality tends to increase. A free market is not to be confused with a perfect market where individuals have perfect information and there is perfect competition.

³¹ http://www.citizensinformation.ie/categories/health/health-insurance/private_health_insurance

³² Wikipedia. (2008). http://en.wikipedia.org/wiki/Free_market (accessed 4 May 2008).

- A ‘*free market*’ may be defined³³ as the sum of those voluntary exchanges that furnish mutual benefit to participating individuals. Virtually innumerable positive-sum games occur in a genuinely free market: i.e. both parties are better off as a result of a trade, as of money for medical care.
 - A ‘*free market price*’ is a price determined purely by the forces of supply and demand without interference from an outside source, such as a government³⁴. This concept assumes that markets are efficient, which is not always true in practice.
 - The ‘*free market price*’ is the price established by buyers and sellers in the free market, with no restrictions placed on market participants³⁵. This price is a function of the level of demand versus the level of supply in the market at any time.
3. **“Middle Ground”** – For this exercise this model is based on the notion of ‘free market pricing’, but with publication of data/evidence to support the premium rating factors and demonstrating the actuarial/statistical justification behind differentiation (as per the EU Equality Directive impact on Gender in the UK). There are, of course, many different possible ‘Middle Ground’ scenarios, and we would anticipate that each country or special interest group will seek to develop a ‘Middle Ground’ scenario that is right for them, taking into account the ‘political will’ for the various potential ‘Middle Ground’ solutions, allowing perhaps for insurance regulations, general taxation appetite and the political climate towards the insurance and financial services industry.

The global insurance industry has adopted positions along a continuum from an “All Pay The Same” model to “Free Market Competition”. When comparing these ideological models it is useful to bear in mind some examples of pricing restrictions that society might decide to apply as follows:

- Disallow *price differentiation* based on Age / Sex / Address etc
e.g. cannot charge males more or less than females for Motor Insurance
e.g. Irish Health Insurance Open Enrolment Lifetime Community Rating
 - Allow *price differentiation* based on age but only based on age attained when first insured
e.g. Health Insurance, assuming policyholder maintains continuous coverage thereafter.
 - Disallow *declinature* of prospective insureds on the basis of Age / Sex / Address etc
e.g. cannot refuse/exclude flood cover based on post code
 - *Price differentiation* not allowed above or below a *threshold age*,
e.g. cannot price differentiate on age for Travel or Motor above age 65, and cannot decline cover based on age above age 65
- Price differentiation* not allowed for Basic/Compulsory Cover Level, but allowed for Additional Coverages
e.g. restrictions for Third Party Only but not Fire & Theft and Windscreen add-ons that make up Comprehensive cover
e.g. restrictions might not apply to higher powered vehicles

³³ Gervais, Robert P. (2004), The Necessity of Free-Market Prices for Medical Care, p.56, *Journal of American Physicians and Surgeons* Volume 9 Number 2 Summer 2004, also published via <http://www.jpands.org/vol9no2/gervais.pdf>

³⁴ InvestorWords. (2008). http://www.investorwords.com/5584/free_market_price.html (accessed 4 May 2008).

³⁵ ShaeffersResearch. (2008). <http://www.schaeffersresearch.com/schaeffersu/general/glossary.aspx> (accessed 4 May 2008).

- *Price differentiation* permitted but only on the basis of statistically established data, either published or established confidentially with the regulator
- *Price differentiation* permitted but within certain specified parameters (based on pooled data analysed by the regulator)
e.g. For motor insurance, males can be charged more than females but not more than 10% more.
- Rate Filing / Regulator Pre-Approval of Rating Matrix
e.g. All Rating structures to be pre-approved by the regulator
- Regulation for Specific Products but not all Products
e.g. compulsory insurances only
e.g. single trip travel insurance but not annual multi-trip travel insurance

Our comparison of the three ideological pricing models covers the following aspects:

1. Anti-selection
2. Product innovation – product design and pricing/underwriting
3. Life-time value / acquisition costs
4. Premium rates and profit levels
5. Capital implications
6. Marketing implications
7. Service levels – claims, sales and customer service
8. Societal effects – winners and losers

2.2. Anti-Selection

All Pay the Same

In a market where all pay the same or where there are restrictions on price there is significant opportunity for anti-selective actions by competitors and customers.

In the absence of a risk equalisation mechanism, insurers are incentivised to select the customers with the lowest risk cost to the disadvantage of their competitors. This effect could encourage new entrants to cherry-pick risks to gain a foothold in the market. Companies will find ingenious ways to ensure that they attract the right risks but also ensure that they stay within the letter of the regulations. Those market incumbents with a legacy high-risk portfolio could face progressively worsening experience generating a requirement for ever higher premium rates and spiral into financial difficulties.

For compulsory insurances there would need to be a requirement to accept all risks (“open enrolment”), in addition to the requirement to charge all risks the same.

For non-compulsory insurances there could be a market wide selection bias as high risk customers enter the market and buy insurance and low risk customers exit and elect to self insure. This would in turn push up the average market price of insurance.

Free Market Competition

The mechanics of the free market should operate to allow companies to limit anti-selection by customers. This may result in excluding some groups by price or by underwriting criteria. Exclusion on this basis is more problematic for compulsory insurances.

In the absence of freely available market data there may be some potential for occasional short periods of anti-selection. The absence of market data benefits the bigger players as they have a greater availability of data on which to base their rates.

New entrants may have more difficulty in breaking into an existing market. Their ability to enter successfully will probably be on the basis of identifying new arbitrages between existing rating groups, thus driving the differentiation of rating structures further.

Middle Ground

The middle ground approach potentially opens up the market to more competition, as new entrants will have more information on which to base their premium rates. Greater competition should in turn further reduce the opportunity for anti-selection, but may mean that price-based exclusions are also exacerbated.

On the other hand greater competition could also ensure greater availability of insurance in market segments where refusal to underwrite is the current approach.

2.3. Product Innovation

2.3.1. Product Design

All Pay the Same

In an All Pay the Same world, product design is likely to evolve so as to minimize the potential for anti-selection. Insurers will aim to target the lowest risk customers, although unable to differentiate by price. For example, to counter the problem of risks varying by age, insurers could move towards product differentiation by life style factors. Products could be designed to attract older or younger customers as required. If, as is the case for Health Insurance, younger customers are preferred, insurers could add benefits seen as attractive to younger people, e.g. Maternity Benefits, so as to more closely align risk and price over the whole age range. Overall this is likely to drive the development of a wide range of product variants designed to attract different target groups. Umbrella policies covering all of home, travel and motor might also start to be developed. One challenge for consumers resulting from this is that it can tend to make comparison of insurers offerings more difficult.

Further, where All Pay the Same, the ability of new entrants to succeed depends on whether, and what form of, risk equalisation is employed. In the absence of risk equalisation new entrants can attack incumbents by targeting profitable niches and potentially undermine market stability.

Where strict risk equalisation is imposed, new entrants may find it very difficult to get a foothold. This could lead to a lack of competition, and may be particularly problematic for compulsory insurances.

Free Market Competition / Middle Ground

In the case of Free Market Competition, new entrants tend to gain a foothold by targeting a niche and pricing accordingly, for example, Pay-As-You-Drive products that are aimed at younger drivers. A Middle Ground scenario will arguably level the barriers to entry. However, this could stifle innovation to an extent, as described in the following section.

Where Free Market Competition applies, or in the Middle Ground scenario, the forces driving innovation will tend to be based on price differentiation.

2.3.2. Pricing / Underwriting

All Pay the Same

In a pure All Pay the Same world, price differentiation can not be used as an innovation tool. Where open enrolment is also required, underwriting at point of sale is also unavailable as a source of innovation.

However, where price differentiation is more loosely restricted, e.g. one or more rating factors are restricted rather than all of them, then insurers will seek to use proxies which are not excluded by the discrimination legislation. For example in Motor Insurance some proxies for age might be: Marital Status, NCD level, Number of Years holding a Licence, Occupation (Retired). Such proxies are not necessary in a free market environment. Adding external information as well as marketing information will also become extremely relevant.

Another approach, in this case, is for insurers to refuse to insure certain customers based on their risk profiles. This would be especially problematic for compulsory insurances in an All Pay the Same world and is likely to lead to “open-enrolment” as noted above.

Further, with flat premium rate structures, the cost of implementing rating engines is significantly less. However, as insurers will still need to understand the true risk profile of their customer base, the complexity of data collection is not necessarily reduced.

Free Market Competition

Innovation in a Free Market setting is driven by the quest for new rating factors, which should serve to drive down average market premium levels. In the absence of publication of data, insurers have an incentive to innovate and reap the benefits of their market insights.

Rating factors that encourage retention and positive behaviours can also be used, e.g. NCD. In this context we should note that the primary positive behaviour encouraged by NCD is to minimize the number of small claims, and therefore to reduce the average cost of insurance. NCD may not necessarily reduce the actual underlying risk.

Middle Ground

In the Middle Ground situation innovation through new rating factors may be stifled by the need to prove the case statistically first, and then to give the hard-earned information away to competitors, in order to provide justification for the new rating factor. Recent innovations such as “Pay as You Drive” could be prevented in this case.

2.4. Lifetime Value / Acquisition Costs

In this analysis we restrict ourselves to price regulation by age, as we are looking at lifetime values. Lifetime Value³⁶ is the present value of the future cash flows attributed to the customer relationship. Use of customer lifetime value as a marketing metric tends to place greater emphasis on customer service and long-term customer satisfaction, rather than on maximizing short-term sales. Lifetime Value will depend on the age of the customer and their level of customer loyalty, the latter of which tends to be higher for older customers.

All Pay the Same

With price regulation the lifetime value/acquisition cost balance depends on whether risk increases or decreases with age.

³⁶ Wikipedia. (2008). "Lifetime Value" definition is based on Wikipedia.com, http://en.wikipedia.org/wiki/Lifetime_value (accessed 1 September 2008).

Where risk decreases with age, e.g. young drivers, although risk is very high for very young drivers, there can be an incentive to recruit young drivers to benefit from their lifetime value.

The value of mid-age customers is greater than would be the case in a free market. This creates a high incentive to recruit mid-age drivers to counterbalance ageing risk.

Where risk increases with age, e.g. older drivers, the customer lifetime value is negative. The insurer has little or no incentive to retain older customers. On the other hand the insurer has no ability to deter renewals using a pricing mechanism. This can be further exacerbated by the greater loyalty of older customers. In order to restore lifetime value to older customers, a risk equalisation mechanism is required.

Free Market Competition / Middle Ground

In a free market all customers are “valuable” - at the right price. Assuming that free market prices allow the insurer to price risks appropriately, the lifetime value of a customer will depend on the balance between customer’s potential future lifetime (i.e. age) and the loyalty of customers.

In many cases the higher loyalty of older customers will offset their reduced potential future lifetime, ensuring that they still provide lifetime value to insurers, and justify their acquisition costs.

2.5. Premium Rates and Profit Levels

All Pay the Same

In principle, there is no long-term implication from a move to All Pay the Same for overall market profit levels. It is likely that insurers would re-price to achieve their profit targets.

There may be short-term effects to reduce market profitability if adverse selection is worse than anticipated in companies’ pricing, or to increase profitability if companies are over-cautious in setting revised rates. Distribution of profit between companies could shift as those companies better able to adapt to the change make most profit.

A possible long-term shift in profitability could be caused if the level of competition in the market reduced because some insurers decided that the increased level of risk meant they wished to exit the market.

Further, the overall average premium will differ from that under ‘free market competition’, depending on the overall risk profile of the insured population. If some people are less inclined to join than under “free market competition” because they perceive that the cost of insurance is excessive, or others are more inclined to take out cover because it is now affordable then the overall average premium will be higher due to adverse selection. This anti-selective effect can be countered by insurers by seeking to maximise the take-up rate for insurance cover.

Free Market Competition

The forces of competition should serve to minimize both premium rates and profit levels. This should be true for the market as a whole and for each customer.

Middle Ground

Another way to consider likely premium rates is to consider what capital would be required, and to assume that premiums rates must in aggregate provide a suitable return on that capital. If capital requirements are on balance higher (see section 2.6 below), then we could expect premium rates to be higher too.

2.6. Capital Implications

All Pay the Same

In a market where all pay the same (or more generally, where there are restrictions on price) insurers are required to assume additional risk or to take on business they would otherwise refuse. In addition, where risks are under-priced, there is no disincentive for insureds to take on inappropriate risks (e.g. the 17 year old Ferrari driver). This further increases the risk-exposure of insurers. This extra risk creates a need for additional capital. On the other hand, if the level of competition in the market reduced, the higher premium rates and profits available could reduce the capital required. On balance, and assuming competitive pressures keep market premiums down, capital requirements would be higher.

Free Market Competition

In a free market situation premium rates are optimised so that:

- Companies are free to take on risk in line with their risk appetite.
- Companies are able to freely underwrite and price, such that the level of risk is well understood and minimised.
- Companies have control over which business they attract rather than being at the whim of the buying public.

These factors serve to minimize the capital required to support the business written.

Middle Ground

In the middle ground situation the effect on capital is not easy to determine. If the publication of data leads to greater competition and understanding of risk across the market, then this would serve to reduce capital requirements further. However, if the need to publish data stifled innovation or the ability to test new concepts then capital requirements would be higher. On balance there is less incentive to innovate, and possibly a prohibition on innovation in the absence of data, so capital requirements would be higher.

Reinsurance

Reinsurers approach markets differently to primary insurers. If reinsurers are simply viewed as providing capital to players in the market then we can consider their response in that context. As described above, primary insurers are likely to be exposed to more risk with an *All Pay the Same* scenario than with other scenarios. This will in turn lead reinsurance premium rates to rise.

2.7. Marketing Implications

The choice of models has a significant impact on the marketing of insurance products.

Moving to All Pay the Same from Free Market

In the absence of risk equalisation, in an *All Pay the Same* system, insurers face an ongoing requirement to maintain a steady flow of new low risk customers. Without the ability to target by price, marketing becomes a key activity. Communications, branding and advertising would be designed to attract the desired risks, and exclude the undesirable.

Marketing departments will gain increased strategic responsibilities and will more directly affect the market position of their companies. The marketing model would change dramatically due to the necessary development of marketing tools other than price. This would enrich the marketing toolbox of all market players; those with a more successful marketing mix will improve their positions in the market.

Marketing mix describes the set of tools that management can use to influence sales. The traditional formulation includes the 4Ps:

- Product,
- Price,
- Place, and
- Promotion

Setting the 4Ps is difficult because of their interactions. Under a Free Market model, insurance companies have emphasized price over other marketing tools. Under an All Pay the Same model price would become less of a differentiating tool and so setting the marketing mix will become increasingly important and difficult.

For marketing to work, insurance companies would have to manage the marketing mix in an integrated fashion. Yet in many companies, responsibility for different elements of the marketing mix is still in the hands of different individuals or departments. Integrating these departments into one single decision-making process would become a strategic topic for the boardroom agenda in most insurance companies.

In the end, marketing's involvement in the higher level issues – customer satisfaction, innovation (how products anticipate consumer needs), quality (how products respond to consumer needs), value and information technology – would become less incidental and more direct.

An enriched marketing toolbox

The following concepts would gain influence in the market position of insurance players, therefore becoming increasingly important in terms of research and analysis, decision making, resource allocation and control.

Market research

Successful companies will have to add to their hard statistical data mining and mathematical modelling research a whole new array of marketing investigation techniques to understand customers and markets and their own portfolio and marketing effectiveness. These newly favoured research tools would include focus groups, in-depth interviews, marketing experiments and questionnaires and surveys. Qualitative research may in the end become trendier among insurance companies.

Among other benefits, market research would eventually lead companies to increasingly segment customers not only by demographical, attitudinal and behavioural patterns but also by marketing niches and opportunities outside the constraints. It is quite likely that this process of dividing the market will lead companies to segment potential customers into need groups.

Positioning

Insurance companies will start to claim louder than ever to be different and better than other companies in existing and new ways. Positioning is primarily a communication exercise and unless a product is identified as being best in some way that is meaningful to some set of customers, it will be poorly positioned and poorly remembered. Positioning can not be arbitrary and new products will be developed and launched with an intended positioning in mind. A successful positioning would be relevant to consumers, true to the marketing mix and sustainable in time. Unique selling points would become increasingly important for successful insurance players.

Branding

Insurance companies selling directly would need to build up stronger brands to leverage their positioning. Thus insurance brands would become more closely linked to a specific positioning and set of values, in turn linked to a set of products. Strong umbrella brands and corporate naming that currently dominate the market may eventually give way to specific product brands that will become

more important than ever. Companies will generate larger brand portfolios and would need to work hard to build them. The resulting successful brands will command a high amount of loyalty and preference.

Communication and advertising

Among the most important skills in marketing is communication and in an increasingly competitive insurance market most companies will have to assign a bigger than ever role (and budget) to communication. Communication happens whether planned or not and companies will need to orchestrate a more consistent set of impressions from its personnel, facilities and actions that deliver the company's brand meaning and promise to its various audiences. Since specific brands link to unique positioning, differentiated products will be the key to success in future competitive insurance companies. Companies will have to increase the use of advertising, sales promotions, salespeople and public relations to attract attention and interest within a competitive environment where prices play a less significant role. These adverts and promotions are likely to develop as follows:

- Time-slot TV advertising decisions will be based on the profile of viewers rather than volume of viewers.
- Internet adverts will become more tailored (eg driven by user profiles such as Google mail adverts).
- More differentiation highlighting brands' unique selling points
- More directly related to the insurance product, eg two insurance policies for the price of one, rather than insurance being an add-on to a bigger purchase.

In an established All Pay the Same world companies with mature portfolios and newcomers to saturated segments will need to stress the play of sales promotions. These actions will add to the basic marketing mix new approaches such as increased focus on free offers, gifts, loyalty bonuses, flexible payment plans and so on. In any case, the end goal will be to trigger off a buying action that will look increasingly elusive to market players.

Distribution and channels

Any company needs to bring its new and existing products to the market. A more regulated market would probably explode the number of sales channels: Field sales representatives, strategic allies, business partners, master or local distributors, integrators, value-added resellers, intranet, extranet, websites, e-mail, business-to-business exchanges, auctions, agents, brokers, franchises, telemarketers, telesales agents, direct mail, newspapers, television... to name just a few and some of them new to the insurance industry. Competitive companies will drop failing historic channels and will be prepared to add new ones, e.g. buying household insurance at estate agents. Distribution channels will become more dynamic.

A more complex distribution policy will also force most insurance companies to integrate market channels in a more sophisticated way if they are to achieve an efficient market proposition. Every company operating multiple channels would have to operate them with coherent policies. Insurance companies that will excel would create a competitive advantage out of their distribution channel mix while other companies poorly using distribution channels would suffer a competitive liability.

2.8. Service levels – claims, sales, customer service

All Pay the Same

Service becomes a more important part of the insurance product offering. As products may become increasingly commoditised, so service quality, including added extras, may appear as one of the most promising sources of differentiation and distinction. Eventually those companies best at service may end up entering a whole new market and tapping new sources of business. For example, travel insurance could start to include flights discounts, free transport to airports, etc.

An increased focus on claims service can be a two edged sword for customers. On the one hand companies may strive to offer more efficient service to attract a higher market share. However, there is also a potential for underwriting to be carried out at point of claim, if it is not done at policy inception. An example of this is the PPI market where flat rate premiums have traditionally been offered, but claimants can be disappointed by the exclusions applied at point of claims.

Sales teams will probably be closer to the client and will need to know them better to ensure appropriate segmentation. Sales team targets will therefore be based on quality as well as quantity. Similarly client service teams will become more relevant as they will be able to get client information and use it, for example tailoring offers to customer's requirements.

Free Market Competition / Middle Ground

In general Insurance companies aim to provide the best services that they can, although not many of them use service as a key differentiating factor. In particular, underwriters and sales teams incentives can be volume and not quality focused. Also customer service teams allocated to improve the renewals rates are common.

2.9. Societal Effects - Winners & Losers

All Pay the Same

In an All Pay the Same environment the market is a loser overall because average premiums are pushed up by higher capital requirements and reduced competition. However behind this average effect there are winners and losers. Clearly all those customers whose risks are now underpriced will be winners and vice versa.

For example, if unisex motor insurance rates were imposed females would pay more to subsidise the reduction in premiums for males – though a typical couple might see their combined insurance cost rise.

There are several potential societal effects as a result of imposing an All Pay the Same regime:

- **Encourage Risky Behaviour:** There is an argument that if the price of insuring a risky behaviour does not reflect the true economic cost then that risky behaviour is more likely to occur. For example, the current motor insurance market discourages very young drivers from using high-powered cars by forcing the driver to bear the economic cost of his/her risk-taking in the form of insurance premiums. If this price signal is removed, such risk taking would be encouraged.
- **Discourage Positive Behaviours:** Free Market pricing can drive positive behaviours. For example a “Pay as you Drive” type rating structure can encourage drivers to avoid driving at riskier times, or on riskier roads. This would be lost under All Pay the Same.

Also for a risk which increases with age, e.g. Health Insurance, the average premium charged will need to increase if demographic changes result in an ageing population. Thus, in an All Pay the Same regime premium rates would need to be continually recalibrated to match the age structure in the insured population. A related effect is that younger people may not opt to take out insurance until the cost charged more closely reflects the risk cost. Thus the average age of the insured population is higher than the general population leading to higher average premiums than would otherwise apply. This effect would be less for compulsory insurances.

Free Market Competition / Middle Ground

Free Market pricing can be seen by society as unfair or inequitable, particularly if those “penalised” are from more vulnerable groups. Individuals can be penalised by lack of availability of cover or by cover being made available at significantly higher cost relative to others.

Further, some feel that it can result in a short-term view of ‘treating customers fairly’ and ‘equity’ considerations being taken by the insurance companies. Thus customers can lose their perceived notions of ‘peace of mind’ insurance and regard the insurers as being interested in maintaining their business relationship with them only if they do not claim. For example, with personal medical expenses insurance in the UK, where ‘free market competition’ and ‘survival of the fittest’ have been practiced for many years, there are relatively few personal customers vis-à-vis personal medical expenses insurance in Ireland, where ‘All Pay the Same’ is both popular and widely supported by politicians.

2.10 Summary Comparison of Ideological Pricing Models

[◆ positives; ★ negatives; ● mixed]

	Free Market	Middle Ground	All Pay the Same
Anti-Selection	◆ Limited Scope.	● Disclosing info will reduce differences between companies .	★ Significant Risk for each insurer and the market as a whole. ★ Need to ensure cover available to all. ★ Need Risk Equalisation to counteract the anti-selective effect
Product Innovation (Product Design)	◆ Ever greater Risk Differentiation ◆ Niche underwriters ◆ Targeted Risks	● As for Free Market but potentially less innovation	◆ Aim to attract low risk Customers ◆ Lifestyle Products ◆ Additional Benefits to smooth out risk profile ◆ Product Variants to differentiate
Product Innovation (Pricing/ Underwriting)	◆ Quest for new rating factors ◆ e.g. Pay as You Drive ● Ever more complex rating structures ◆ Move to tailored rates = fair price.	● As for Free Market but potentially less innovation	◆ Proxy Rating Factors ◆ Exclusions ● Simpler Pricing Structure and Rating Engines.
Lifetime Value / Acquisition Costs	◆ All Customers are valuable – at the right price. ● Lower Customer Loyalty may offset positive lifetime value.	◆ All Customers are valuable – at the right price. ● Lower Customer Loyalty may offset positive lifetime value.	★ Lifetime Value distorted by Imposed Rating Structure ★ Some customers have negative value
Premium Rates & Profit Levels	◆ Unchanged from the present ◆ Competition minimizes profits	● Same Return on Capital but higher premiums to finance higher capital (see below)	★ Higher capital requirement means higher premiums to produce same return ★ Less competition means less capital available so higher return on capital
Capital	◆ Better use/allocation of capital.	● Uncertain, but on balance probably higher	★ Probably Highest ★ Higher Reinsurance Costs
Marketing Implications	★ Marketing focused on price.	★ As for Free Market.	◆ Marketing designed to attract the desired risks, and exclude the undesirable. ◆ More emphasis on marketing – stronger brands, more targeted advertising.
Service levels – claims, sales, customer service	★ Limited focus.	★ As for Free Market.	◆ Better sales service. ● Two edged sword for claims; Better Service, or Claims Exclusions

Societal Effects / Winners and Losers	★ Can be seen by society as unfair or inequitable, particularly if those “penalised” are from more vulnerable groups ★ Potential for exclusion of certain groups from cover ◆ May encourage positive behaviours	• As for Free Market but publication of data helps counter arguments about unfairness	★ Overall Average Premium is Higher ★ Everyone’s premium depends on the risk profile (age/sex etc) of Insured Population • “Winners” counterbalanced by others who “Lose” ★ May encourage risky Behaviours and discourage positive behaviours
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Drawing together the discussion of the three ideological models:

1) The comparison points to the Free Market Model being the most efficient in terms of price, profit and capital. In addition the Free Market model can discourage risky behaviours. However the free market model can be perceived as unfair or inequitable, *cf.* section 3 for investigations of potential UK market failures. The strong focus on price can also cause service and marketing to be underplayed.

2) An All Pay the Same model is likely to lead to less efficiency in terms of capital, profit and price, and needs mechanisms such as risk equalisation and open enrolment to avoid market instability. The All Pay the Same model can also encourage risky behaviours. On the positive side this model promotes innovative marketing and a focus on customer service.

3) The Middle Ground approach counteracts some of the claims of inequity in the Free Market at the cost of reduced innovation and less efficient allocation of capital / higher premiums.

Appendices A.3-.6 highlight real life examples of the benefits realised for consumers when tariff based regimes have been opened up to the free market. Further, Appendices A.7-.8 highlight the practical complexities of implementing risk equalisation within an essentially “All Pay the Same” regime.

3. INVESTIGATION OF EVIDENCE OF MARKET FAILURE WITHIN THE UK

We have considered a number of potential examples of groups of risks for which the free market model might be considered to be failing, in order to review whether or not we could find evidence of market failure. We are defining market failure as a lack of availability of affordable insurance, caused either by insurers unwilling to provide cover for certain risks or prices being so high that a typical customer might consider them to be unreasonable.

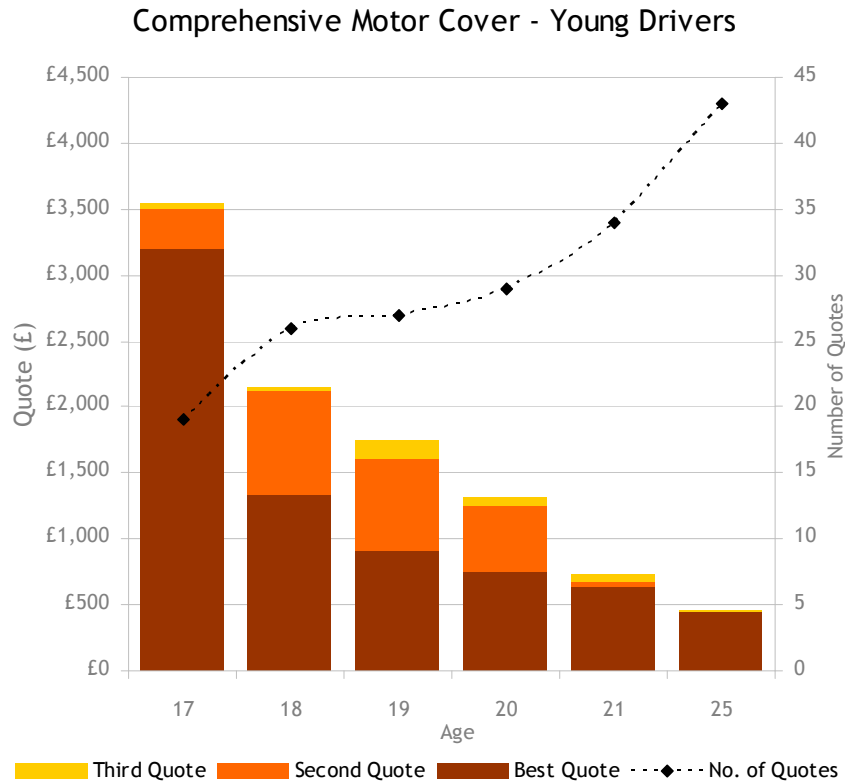
The examples considered are:

- i) Motor insurance for young drivers
- ii) Motor insurance for elderly drivers
- iii) Travel insurance for elderly people
and, very briefly
- iv) Household insurance in areas at risk of flooding

3.1. Motor insurance for young drivers

A standard risk (male, comprehensive cover) was run through a price comparison website for a variety of young ages. The results of the three lowest premiums offered and the total number of companies prepared to offer a quote are shown in the table and graph.

Age	Cheapest price	2nd	3rd	# of quotes
17	£3,199.26	£3,493.35	£3,535.73	19
18	£1,336.52	£2,121.08	£2,142.55	26
19	£908.65	£1,604.06	£1,742.50	27
20	£743.53	£1,252.24	£1,323.98	29
21	£635.39	£670.37	£736.09	34
25	£441.00	£449.18	£454.65	43



Similar results were obtained through broker quotation software so the findings are not thought to be greatly influenced by the distribution channel.

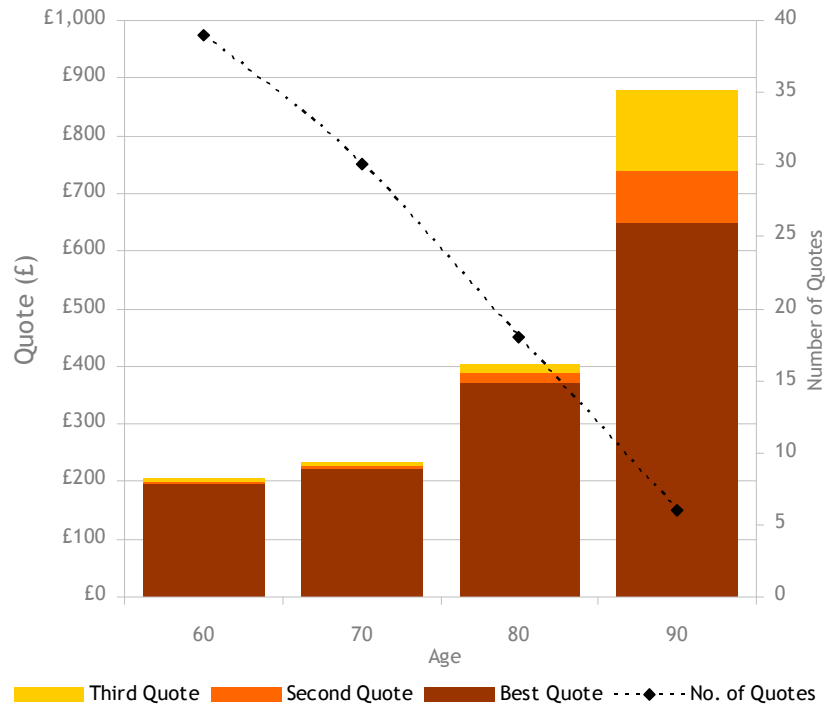
It is clear that, for each age, a considerable number of companies is prepared to quote, although the range of quotes is greater and the number of companies prepared to quote is smaller for ages under 21, indicating a less competitive market for these ages. Nevertheless, there does not seem to be any problem with availability of insurance. Affordability could be considered to be more of a problem for ages under 21, and particularly at age 17 where premiums are very high and credit agreements are generally not available. It is not clear, however, that the prices are in any way artificially inflated rather than simply reflecting the increased risk at young ages.

3.2. Motor insurance for elderly drivers

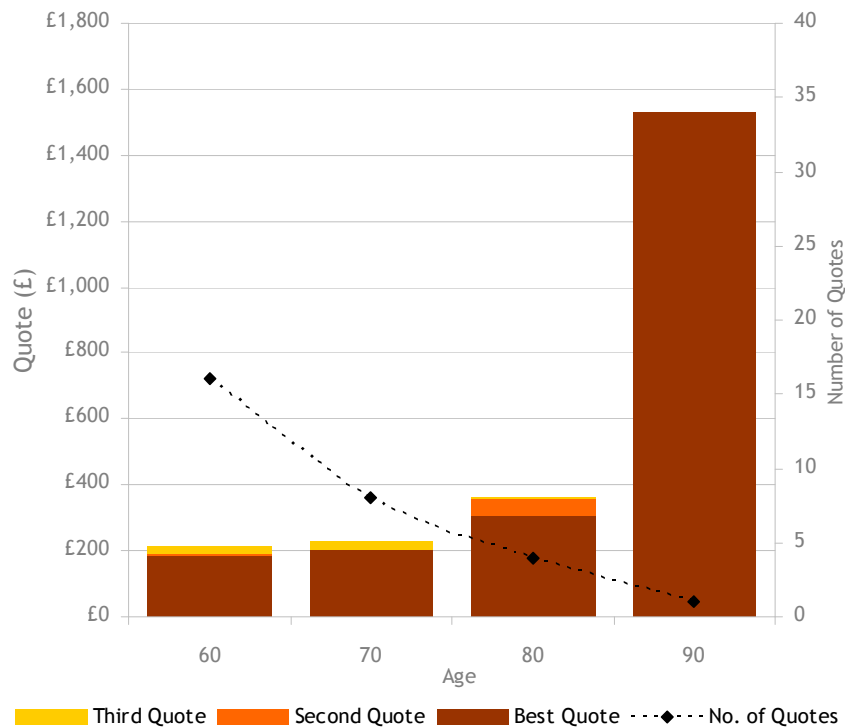
A standard risk was run through a price comparison website for a variety of older ages. The results are shown in the table and graphs.

Age	Comp				TPO				TPFT			
	#	1 st	2 nd	3 rd	#	1 st	2 nd	3 rd	#	1 st	2 nd	3 rd
60	39	£193.61	£196.95	£203.63	16	£185.65	£187.68	£209.29	7	£289.80	£289.80	£290.09
70	30	£221.55	£225.37	£234.59	8	£198.20	£199.48	£230.29	N/A	N/A	N/A	N/A
80	18	£370.80	£385.90	£403.28	4	£304.84	£357.26	£360.40	N/A	N/A	N/A	N/A
90	6	£650.04	£737.00	£877.81	1	£1,533.12	N/A	N/A	N/A	N/A	N/A	N/A
100	Not Allowed											

Comprehensive Cover



TPO Cover



Similar results were obtained through broker quotation software.

Age	Average # of quotes	Average premium
75	19	£216.03
80	14	£265.46
84	6	£447.37
85	2	£731.00
87	2	£1,933.55
93	3	£1,491.34
94	1	£1,180.20

The number of companies prepared to quote does reduce at old ages and particularly over age 79. Nevertheless, quotes are available at least up to age 94. Prices increase for older ages but there is no evidence that this does anything other than reflect the increased claim costs. Indeed, anecdotal evidence suggests that prices do not rise as steeply as observed claim costs for older drivers.

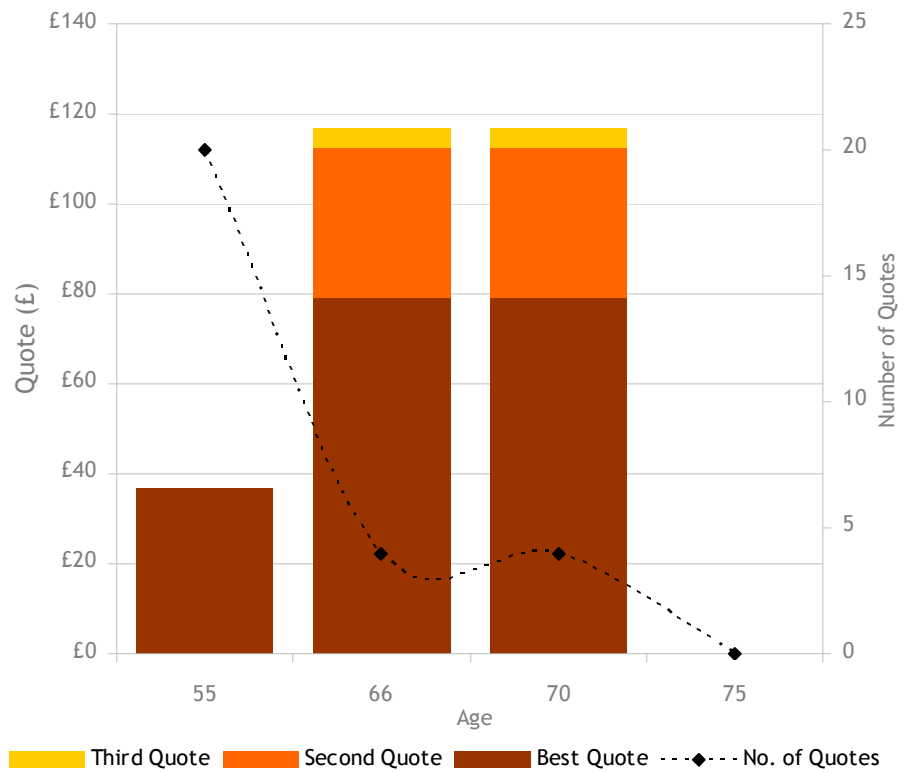
3.3. Travel insurance for elderly drivers

We sought quotes for annual travel insurance for elderly people from a number of price comparison sites and other websites. Results are shown below.

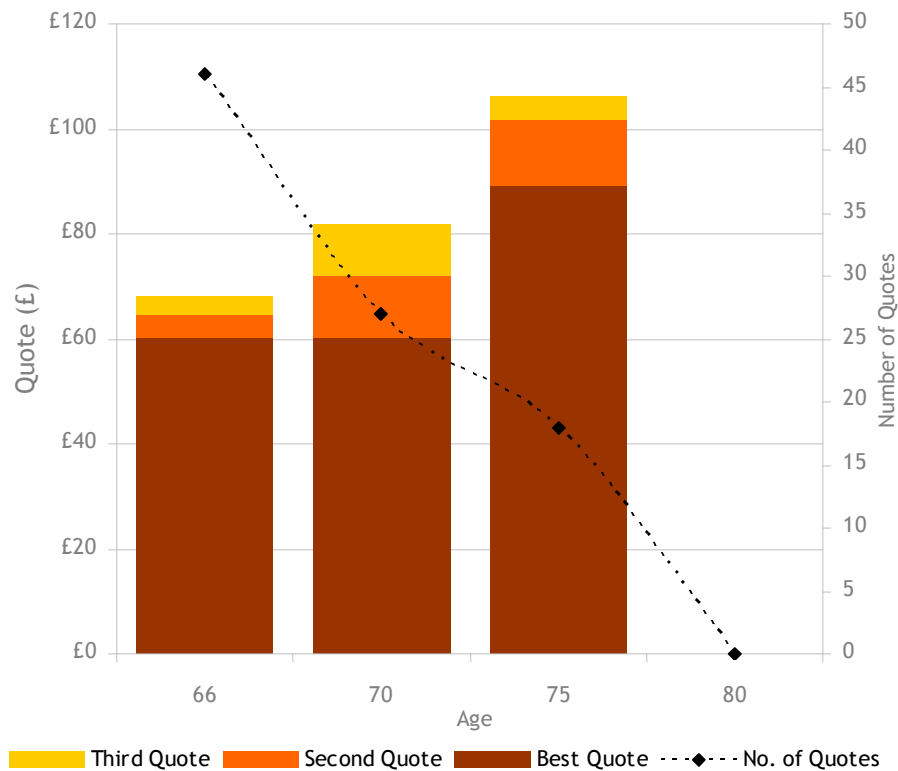
Aggregator 1				
Age	Cheapest price	2nd	3 rd	# of companies quoting
55	£36.70	£36.80	£36.90	20
66	£79.00	£112.48	£116.99	4
70	£79.00	£112.48	£116.99	4
75	no quotes available			0

Aggregator 2				
Age	Cheapest price	2nd	3 rd	# of companies quoting
66	£60.30	£64.47	£68.20	46
70	£60.30	£72.07	£82.00	27
75	£88.99	£101.54	£106.20	18
80	no quotes available			0

Annual Travel Insurance - Aggregator 1



Annual Travel Insurance - Aggregator 2



Specialist provider	
Annual policies with no upper age limit	
Age > 80	Worldwide cover £307.19
	Europe only £96.60

The number of companies prepared to quote declines markedly above age 65, although availability is generally reasonable up to age 75. In some cases, however, additional restrictions are applied regarding either the length of trip allowed or the benefits. Another criticism is that there are often step changes in price (and availability) at milestone ages such as 65, 75 etc.

Above age 75, availability of annual travel insurance is very limited through mainstream insurers or aggregators. It is available through specialist insurers – for example Intune (owned by Help the Aged), who offer a policy with no upper age limit, although the price of worldwide cover is high.

Single trip travel insurance is more widely available for elderly travellers at a reasonable price.

Single trip quotes				
Age	Cheapest price	2nd	3rd	# of companies quoting
80	£79.63	£81.56	£90.62	10
85	£79.63	£81.56	£90.62	9
95	£81.56	£90.62	£100.69	6

3.4. Household insurance in areas at risk of flooding

Work done by the Actuarial Profession's flood risk working party³⁷ suggests that insurance is widely available at reasonable cost even in areas designated as at significant risk of flooding. However, it may be that this is because some companies rely on other questions such as "Has your property been flooded previously?" or "Is your property within 100m of a watercourse?" to underwrite, rather than basing decisions purely on address.

3.5. Conclusion

In conclusion, our investigations did not find any examples of market failure where that is defined narrowly as a lack of availability of cover. There were examples – notably travel insurance for elderly people, and to a lesser extent motor insurance for elderly drivers – where availability is restricted and a number of insurers decline to quote. These examples could, however, be addressed by better signposting of customers towards those insurers who specialise in these types of risk, rather than by legislation. There were also examples, notably for young motorists and to a lesser extent for elderly drivers, where prices could be considered prohibitive. There is not, however, any suggestion that these do anything other than follow the underlying claims experience so it is not clear that legislation to force insurers to rely on actuarial data would have any impact on affordability of insurance.

Further practical considerations in relation to potential new legislation to prevent age discrimination are considered in the next section.

³⁷ GIRO Flood Risks Working Party (Lowe et al) 2008

4. IMPLEMENTING LEGISLATION TO REMOVE AGE DISCRIMINATION – PRACTICAL CONSIDERATIONS

4.1. Current perceived discrimination

The two main areas in which general insurers are seen to be discriminating on the grounds of age are:-

1 Declining to quote for certain ages

The key 'problem areas' are motor and travel. For motor many companies will decline young drivers (under 21, under 25) and also decline to quote for older drivers (79 is a common cut off point). For travel the issue is declining older customers. Many insurers either decline or have substantially higher premiums for customers over, say, 60 or 65. Relatively few providers have no upper age limit.

2 The use of wide premium bands.

This is most prevalent with travel insurance where companies may have a simple rating structure with, for example, 3 age bands – up to 60, 61-69, 70-79. This is seen as unfair since customers can have a large increase simply by being one year older.

See Section 3 for actual example quotes at these ages in the context of investigating market failures.

4.2. Possible Legislation

If legislation discussed in section 1.2.2 is implemented it is likely to have two key components:-

1. A requirement to quote for all ages

Insurers would be required to offer a quote to people of all ages. Indirect discrimination would also be prohibited so, for example, companies would not be able to insist on minimum levels of NCD or insist that a customer must have held a license for a minimum number of years. Either of these eligibility requirements would discriminate against young people who, by definition will not have full NCD or have held a license for 10 years.

2. A competitiveness test

In order to prevent insurers sidestepping the legislation by quoting uncompetitive premiums insurers would need to be able to demonstrate that they have used actuarial tables when determining how their premiums change with age. Customers would have the right to challenge a premium through the courts.

4.3. Potential Implications

Legislation of the form described above would have far ranging implications for the insurance industry and present some challenges to pricing actuaries.

1) Death of the low risk insurer

A number of insurers operate in the low to medium risk part of the market. Their eligibility rules will typically exclude very young and very old customers, customers with low levels of NCD, high risk cars etc. Customer who satisfy the eligibility requirements are rewarded with lower premiums. Such companies would be compelled to offer competitive premiums to all age groups regardless of NCD level.

The legislation will also pose problems for specialist insurers who operate in particular segments of the market (eg SAGA insurance for over 50s or those who specialise in young drivers)

2) Where do you get the actuarial data from?

The proposed legislation assumes that actuarial data is freely available. In practice this is not the case. Companies that currently do not insure, for example, young drivers, will struggle to obtain the necessary data to actuarially price young drivers.

The lack of publicly available actuarial data could act as a barrier to entry to new players.

3) Can actuaries price all risks?

Actuarial and statistical pricing techniques work very well in the mass market where there is plenty of data and statistical credibility. Many companies will have eligibility criteria which exclude unusual high risk customers. For example an 18 year old wanting insurance for a Ferrari or an 85 year old wanting travel insurance for a skiing trip to the US. By definition, data for such risks will be sparse.

Pricing actuaries will need to make some pretty heroic assumptions and extrapolations in order to produce actuarial risk premiums for such customers. The lack of data, lack of claims experience, and general uncertainty for such customers means that two actuaries could produce very different results both of which could be actuarially sound. The pricing actuary will have to bear in mind that if a customer is not happy with the premium quoted he or she will have the right to have the premium justified in court.

4) Where will companies get the expertise from?

At present, risks such as our 85 year old skier would be underwritten by specialist insurers. They will have highly skilled underwriters who will evaluate the risk by asking additional questions ('have you skied before' would be a relevant question here) and control the risk by applying terms and conditions (eg no black runs). There will be a small number of companies prepared to quote for such risks and they will have underwriters with expertise in the market segment in which they operate. Companies which currently operate in the mid market will not have such expertise; this will create problems.

5) What will happen in the Travel Market?

The travel insurance market is relatively small. The total GWP is circa £500 million and the premiums are small – single trip average premiums may be £50 or less. Companies sell products with very simple pricing and underwriting. Products are kept simple by excluding high risk customers (eg people over 70) and using simple rating perhaps with wide age bands. The simplicity of the rating means that it is possible to perform a rating exercise on a spreadsheet.

In order to comply with the legislation and remain profitable companies will need to make changes to their systems – both IT and underwriting / pricing. For many companies travel is not a key line of business (they may only write a few million pounds of business) and they may simply decide to withdraw from the market. Direct players may continue to offer travel by selling someone else's product under a white labelling agreement.

For those companies that decide to remain in the market costs will rise because they will need to:

- build more complicated IT platforms;
- undertake more complex analysis perhaps employing actuaries on travel for the first time; and
- recruit underwriters who can quote for specialist risks (eg 85 year old skiers).

Whilst it is very difficult to predict what will happen, a possible upshot is that premiums will rise and the number of travel insurers may decline.

6) Underwriting Difficulties

There are a number of underwriting practices which would fall foul of legislation on age discrimination. For example:

- a) Requiring a minimum amount of NCD
- b) Having a minimum age criteria (typically 25 or 30) for larger or more powerful cars
- c) Preventing fronting by refusing to insure younger additional drivers
- d) Allowing open driving only to over 25s
- e) Age restrictions on driving other cars covers
- f) Declining students may be problematic.

Underwriters will need to consider how to manage risk in their portfolios without using age based eligibility criteria.

7) Loss of Product Innovation

A requirement for strict 'actuarial pricing' may produce a chicken and egg situation which could reduce product innovation. Telematics based products such as Norwich Union's Pay as you drive or MORETH>N's Drive Time would be very difficult to launch if you required absolute 'actuarial proof' before launching them.

8) Other practical considerations

Insurers currently operating a low risk model would need additional claims staff if the legislation led to their customer profile changing.

Currently companies may rely on declining certain age groups to prevent being selected against. If companies are required to operate across all age groups they may need to increase the sophistication of their pricing. This will lead to additional costs in terms of people, data provision and IT systems

5. IMPACT OF REMOVAL OF DRIVER AGE OR VEHICLE AGE FROM INSURER RATING STRUCTURES

Introduction

In order to estimate the impact which legislation prohibiting rating on driver age might have on different groups of insureds, we have undertaken an analysis which investigates the potential impact of removing driver age from UK insurers' models of private car claims experience.

In addition, we have also considered the effect of removing a second factor, vehicle age. This has been done to demonstrate more generally the consequences of ignoring differences in risk rates. Vehicle age has been chosen on the assumption that the lay person would view it as reasonable to differentiate on vehicle age.

Data

Several major insurers have contributed data to this analysis, for which we express our gratitude. All have provided linked policy and claims history data, together with a generalised linear model fitted to this data. The data and models provided were at aggregate (not claim type) level, with the response data being the fitted risk premium associated with the aggregation of the underlying claim type models.

Essentially the models provided are representative of the insurers' estimates of expected claims cost, and the data provided is representative of their current portfolios.

Methodology

Driver age analysis

In the models provided, driver age factors and any multi-way (interaction) effects between driver age factors and other factors were included in the model of estimated claims costs. Using these models the implied risk cost was calculated for each policy.

A second version of each insurer's model was then developed, in which all age factors and related interaction terms were removed, with the relativities for other factors changing to compensate to some extent for the removal of the age factors. The corresponding individual risk premiums were re-calculated using this revised model. This process was carried out separately for each insurer, with the results aggregated across insurers.

Vehicle age analysis

The above process was repeated, but, in this case, vehicle age factors and any associated multi-way factors were excluded.

Limitations

(i) UK insurers do not use consistent driver age factors when modelling claims experience. Some use policyholder age as an explanatory factor, whereas others use rated driver age (whereby a rated driver is selected on the basis of a set of rules) and others use main driver age. In this analysis, we have adjusted the data where possible to increase consistency of definition. This has not always been possible and in some cases, we have had to ignore this difference. It is recognised that this may introduce some distortion. However, we believe it does not undermine the overall conclusions.

(ii) The statistical models used have been provided by the contributing companies and have not been reviewed or remodelled by the working party. In addition, the modified models are based on

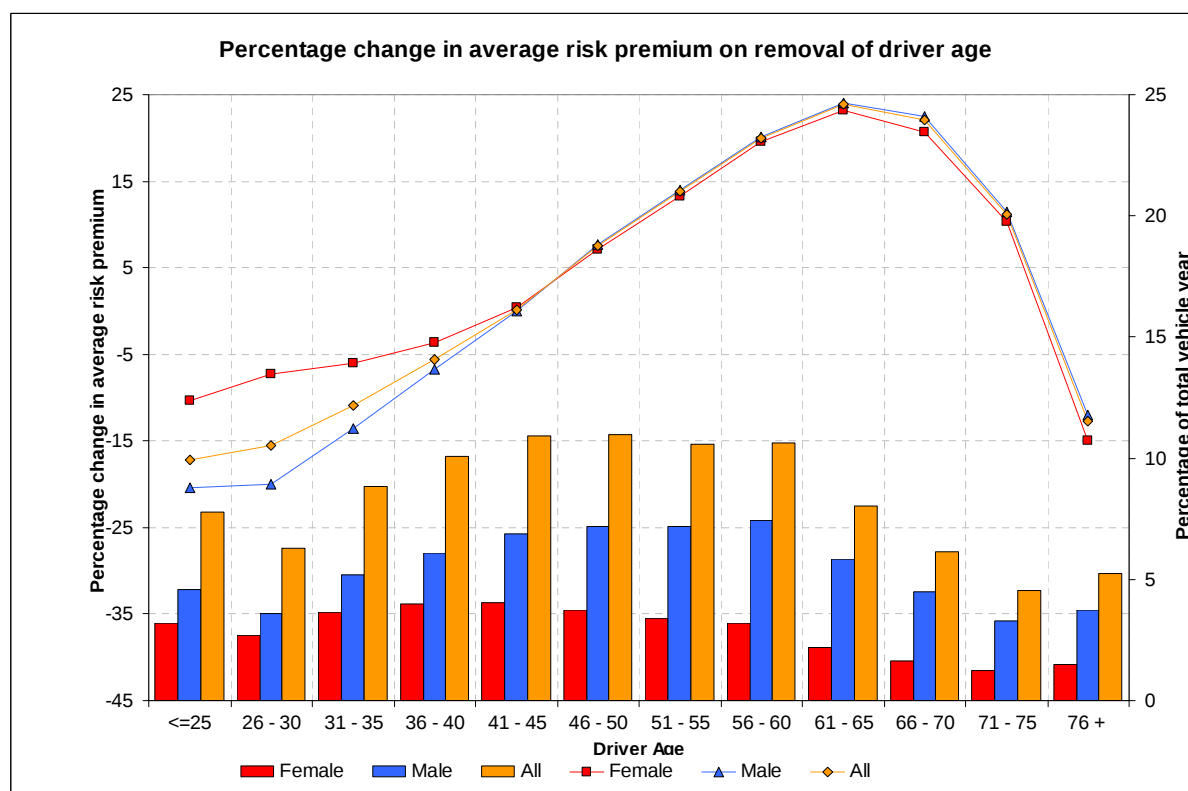
fitted values (being the result of aggregation of underlying claim type models) and not random claims experience.

(iii) We have used statistical models of claims experience which are typically not the same as the insurers' implemented rating structures. This is in part due to the data available and secondly because it would be problematic to replicate an analogous exercise using implemented structures.

Results

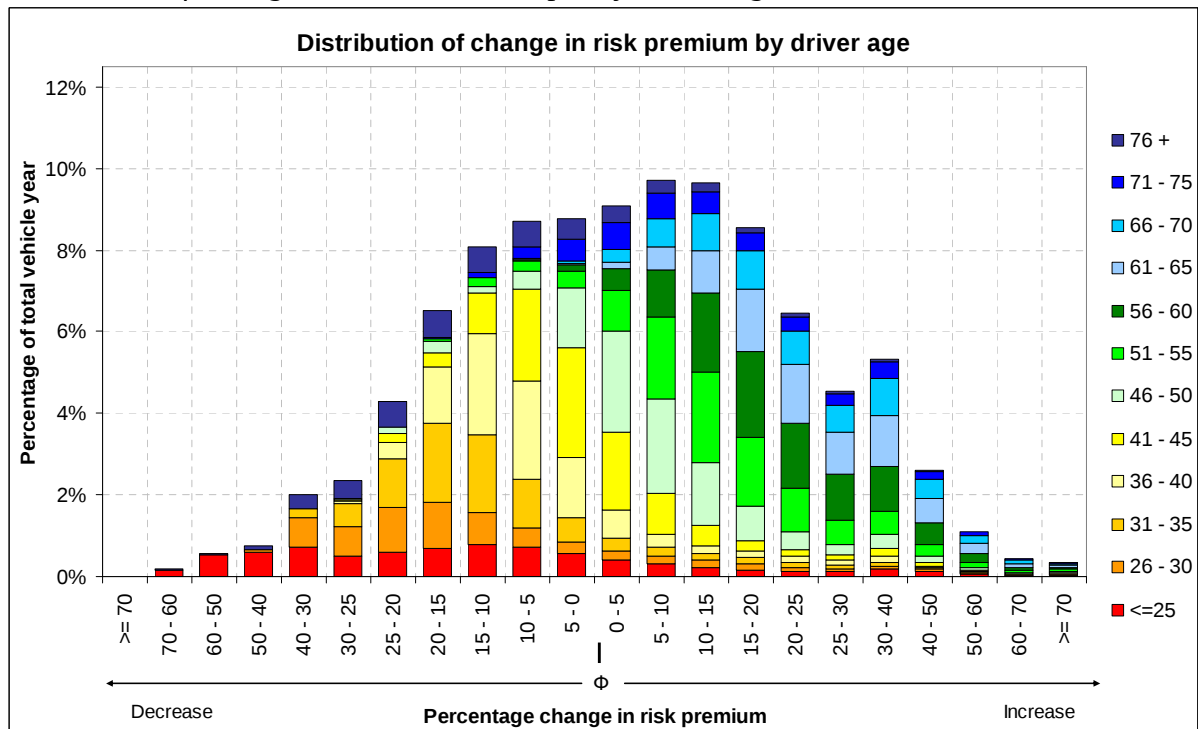
Graph 1:

Average Percentage Change in Risk Premium, on removal of Driver Age as a Factor



This graph shows the average percentage change which different age bands of insurers would experience if premiums moved from rates based on claims models using age as a factor to rates based on claims models without age. It can be seen that drivers aged 40 to 75 would experience increases (of up to 24%), with drivers under 40 and over 75 experiencing decreases (of up to 20%).

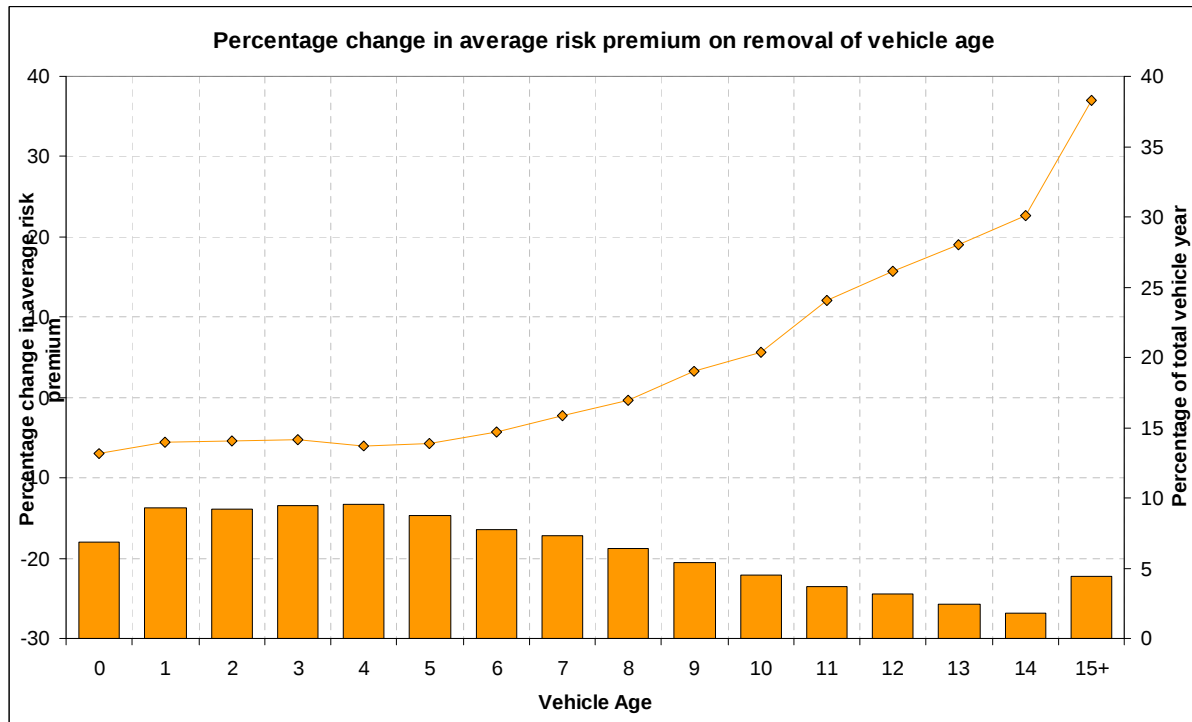
Graph 2:
Distribution of Change in Risk Premium, split by Driver Age



This graph groups policies by the percentage change in risk premium caused by removing driver age as a factor. Each exposure bar is further broken down by driver age.

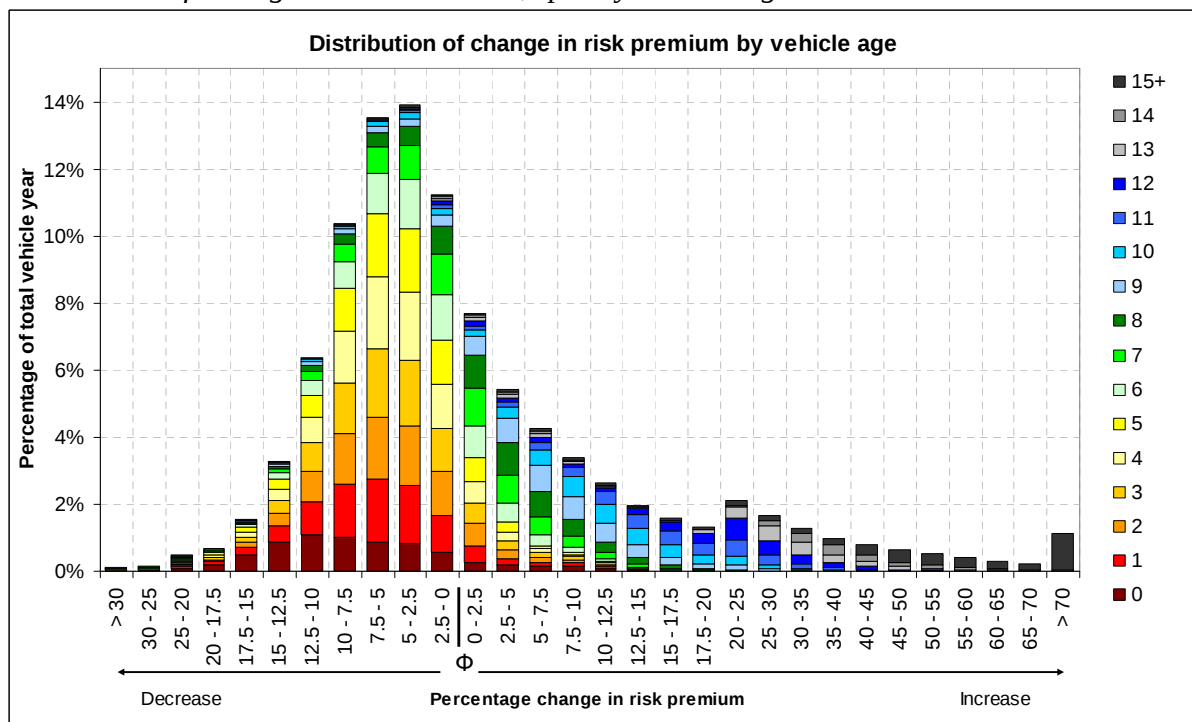
It can be seen that, consistent with the conclusion from Graph 1, those policyholders that would experience a decrease in risk premium tend to be younger drivers and those that would experience an increase tend to be older drivers.

Graph 3:
Average Percentage Change in Risk Premium, on removal of Vehicle Age as a Factor



This graph shows the equivalent average percentage change in risk premium, by vehicle age, in the event of vehicle age being removed as a factor from the models. It can be seen that for older cars risk premiums increase and for newer cars risk premiums decrease.

Graph 4:
Distribution of Change in Risk Premium, split by Vehicle Age



This graph groups policies by the percentage change in risk premium caused by removing vehicle age as a factor. Each exposure bar is further broken down by vehicle age. So, consistent with the conclusion from graph 3, we see that those policyholders that would see an increase in risk premium tend to drive older cars and those that would see a decrease in premium tend to drive newer cars.

It can also be seen that, except for the very oldest vehicles, the impact on risk premiums of removing age of driver as a factor is rather greater than the effect of removing vehicle age.

Conclusions

The analysis suggests that if insurers' rates were exactly proportional to estimated claims cost, under a regime that does not rate on driver age, drivers between the ages of 46 and 75 would see increases of up to 24%, which would cross-subsidise average decreases for the youngest drivers (under 25s) of 17% and for the oldest drivers (over 75s) of 13%. If other highly correlated factors such as "years licence held" or NCD were also prohibited, the degree of cross-subsidy would be greater (as our analysis allows these correlated factors to compensate in part for the removal of driver age).

The results assume that the mix of business would remain the same. The significant changes in risk premium could, however, encourage materially different behaviour, and we would expect an increase in younger drivers and a decrease in older drivers in response to the change in risk premium profile. Given the cross-subsidies introduced by the removal of driver age, such a change in mix would reduce underwriting profitability, all other things being equal, which would lead to raised rates and an exacerbation of the increases experienced in the 40-75 age group.

We would also anticipate that the change in risk premium profile would make insurance of higher performance vehicles more accessible to the very young and younger drivers. We would expect that together with the overall increase in the number of younger insureds that there would be an increase in road accident injuries and fatalities.

It could also be argued that the change in risk premium profile would encourage the take-up of insurance amongst younger drivers, helping to combat the uninsured driver problem. Older drivers, faced with an increase in risk premium, might be likely to continue to insure, despite the increase, resulting in a possible overall reduction in uninsured driving.

The vehicle age example demonstrates that the removal of any statistically significant factor creates cross-subsidies within a tariff, and that driver age, whilst currently of much political interest, is no different to any other statistically significant factor in this respect.

APPENDIX A – Case Studies and Articles from other countries

Although our geographic remit was essentially the UK, it is helpful to note that free market pricing issues have also been prevalent in many other countries. Such issues have arisen both in mature insurance markets and in emerging/developing insurance markets. Our case studies and articles highlight the arguments for different stances on free market pricing and the types of assumptions that are made about what constitutes differentiation and/or discrimination.

Index of Case Studies and Articles:

Societal factors – the realms of discrimination

1. Nebraska Equal Opportunities Commission article raising concerns of on-going racial discrimination in insurance through proxy rating / underwriting factors (property insurance, 2008)
Country: US - Nebraska
2. The Equal Status Act 2000 & Equality Act 2004 (All types of Insurance)
Country: Republic of Ireland

Moving from a tariff to a free market regime

3. Observations from an article titled “Mass. Commissioner says auto insurance reforms deliver competitive market and consumer choice” in the May 2008 Casualty Actuarial society Actuarial review
Country: US - Massachusetts
4. The Impact of de-regulation in the motor insurance market (excerpts from papers and articles in 2002 and 2006)
Country: US – New Jersey
5. Observations from an article in the Casualty Actuarial Society, Forum Winter 2007 titled “Designing a New Automobile Insurance Pricing System in China: Actuarial and Social Considerations”
Country: China
6. The Hindu article reporting on a proposal to move to a free market regime from a tariff one (own damage motor insurance, 2004)
Country: India

Risk equalisation subtleties

7. The impact of lifetime community rating and the challenges of applying risk equalisation (Healthcare Insurance)
Country: Ireland
8. The re-emergence of risk selection under risk equalisation (healthcare insurance, 2007)
Country: Switzerland

State insurers of last resort

9. The use of a state insurer of last resort funded by an industry levy (Motorbike Insurance)
Country: Spain

A.1. Nebraska Equal Opportunities Commission article raising concerns of on-going racial discrimination in insurance through proxy rating / underwriting factors (property insurance, 2008)

Country: US

Whitaker, Alfonza. (2008). *Nebraska Equal Opportunity Commission to address Discrimination in Property Insurance*, published via <http://www.neoc.ne.gov/edu/insurance.htm>:

“The purpose of this article is to alert you as consumers or as a person who may be engaged in providing a service in the Real Estate Industry of pervasive discriminatory practices that may involve violations of the Fair Housing Act which prohibits discrimination in property insurance.

While we at the Nebraska Equal Opportunity Commission are concerned about all discriminatory practices that restrict, limit, or deny homeowners insurance in predominately African American, Latino and Integrated neighbourhoods within the state, we are particularly concerned about practices that prevent a potential homeowner from obtaining the American dream of owning a home of their own. For example, we are aware of a situation where a homebuyer had successfully qualified for all of the requirements of buying a home, including qualifying for a mortgage. At or near the closing date they were notified that they could not obtain homeowners insurance due to bad credit history. In this case, the buyer was not given the opportunity to exonerate themselves or explain their credit history or anything of that nature which allowed them to qualify for the mortgage; they were just given a flat no to the application for insurance. This is the type of discriminatory practice and underwriting standards that the Nebraska Equal Opportunity Commission would like to address and investigate. Therefore, if something of this nature has occurred to you or someone you know, you should contact the Nebraska Equal Opportunity Commission in order to have this matter investigated.

The Nebraska Equal Opportunity Commission finds that there is something fundamentally flawed with the use of a homeowner's credit rating in determining eligibility for insurance coverage. In these cases, the insurance companies use credit-scoring models, which purport to predict who will file a claim or commit insurance fraud. A family who is approved for a mortgage loan after their credit is thoroughly scrutinized can subsequently be turned down for homeowners insurance based on the same credit information that is used to approve their mortgage loan. Homeowners must have insurance in order to close on the mortgage loan and they must obtain insurance coverage for the life of the loan. The question you must ask is, does a late payment to a credit card company translate to "high risk" homeowner? Does a credit blemish really mean I'm likely to commit an insurance fraud – a felony? Insurance companies must get real and realize that credit scoring in the homeowner's insurance arena looks just like another proxy for race discrimination. Some insurance companies have stopped using the age or value of a home as the reason to deny coverage, yet we see the introduction and the increased use of credit which has the same results as denying coverage in African American, Latino and Integrated neighbourhoods. The Nebraska Equal Opportunity Commission invites any citizen, real estate agent or member of the public to contact our office when they feel that there has been discrimination in the ability to procure insurance or anything unusual occurs which may hamper a person's ability to close a real estate deal.

As you may know, decades of insurance and mortgage redlining has lead to a decline in property values and deterioration of our urban neighbourhoods. We are concerned about policies, practices and underwriting standards that severely limit or deny insurance coverage needed to repair, replace or rebuilt a home located in an older, African American, Latino or Integrated neighbourhood. Many of the practices that intentionally hurt homeowners and damage neighbourhoods throughout the state are:

1. Charging African Americans and people of colour more for the same or inferior coverage
2. Requiring additional background information from applicants in minority neighbourhoods;

3. Offering Whites replacement cost coverage, but denying it to African Americans;
4. Maintaining minimum age restrictions;
5. Maintaining minimum value restrictions;
6. Requiring inspection of homes in minority neighbourhoods more frequently;
7. Failing to return calls or provide quotes to applicants in minority neighbourhoods more frequently; and
8. Referring callers from minority neighborhoods to other insurance companies.

Constance Chamberlin, Executive Director of HOME in Richmond, Virginia, noted in a lawsuit filed against some of the major insurance companies, Citi Group, Travelers and Aetna, stated that "African American and Latino homeowners experience double jeopardy when they attempt to obtain insurance coverage from these companies – discrimination based on both the age and value of their homes. There is absolutely no business reason for these policies. In fact, State Farm, All State, Liberty Mutual and Nationwide, the largest insurance companies in the country, eliminated age and value restrictions from their underwriting guidelines years ago."

Based upon these factors alone, the fact that age and value restrictions will have a disproportionate impact on African American homeowners and because American neighbourhoods remain highly racially segregated, it is easy for a company to select a minimum home price, which will exclude neighbourhoods of color from obtaining insurance.

The results of these discriminatory practices are thousands of homes in Nebraska urban neighbourhoods and rural communities are inadequately protected against loss. The Nebraska Equal Opportunity Commission is committed to ensuring that African American, Latino and other homeowners of color have the same ability to purchase quality homeowners insurance coverage as Whites. Insurance protects the largest financial investment that most Americans will ever make. We want to ensure that homeowners have access to insurance that provides replacement coverage for both the structure and contents regardless of the age or value of the home or the racial composition of the neighbourhood. The Nebraska Equal Opportunity Commission is interested in investigating insurance companies that use discriminatory policies and credit scoring systems that virtually guarantee insurance will be denied to urban neighbourhoods and people of colour."

A.2. The Equal Status Act 2000 & Equality Act 2004 (All types of Insurance)

Country: Republic of Ireland

The Irish Equal Status Act came into force on the 25th October 2000 and was amended by the Equality Act 2004 on the 19th July 2004. The Acts relate to discrimination based on the following nine grounds: Gender, Marital Status, Family Status, Age, Race, Religion, Disability, Sexual Orientation, and Membership of the Traveller community. There is no upper age limit for the application of the Equal Status Act and people of all ages are protected by its provisions.

While the Acts apply to the provision of a range goods and services there is an exemption for insurance. Section 5(1) of the Equal Status Act states that *"A person shall not discriminate in disposing of goods to the public generally or a section of the public or in providing a service, whether the disposal or provision is for consideration or otherwise and whether the service provided can be availed of only by a section of the public."* Subsection (d) then allows that Section 5(1) does not apply in respect of *"differences in the treatment of persons in relation to annuities, pensions, insurance policies or any other matters related to the assessment of risk where the treatment*

(i) is effected by reference to

(I) actuarial or statistical data obtained from a source on which it is reasonable to rely, or

(II) other relevant underwriting or commercial factors,

and

(ii) is reasonable having regard to the data or other relevant factors"

Some sample cases, that relate to Insurance, which have been brought to the Equality Authority for judgement on the interpretation of the provisions of these Acts are:

- In November 2001 a claimant contacted an insurer for a motor insurance quote when he was 23 years old. The insurer refused to quote the claimant because he was under 25. The Equality Authority pursued the matter on behalf of the claimant, and the case was listed for hearing in the Equality Tribunal. On the day of the hearing, the insurance company announced that it had now changed its policy and removed the lower age limit for quotations. Because of this and other factors relating to the case, a financial settlement was agreed.
- In October 2003, the Equality Tribunal found against an insurance company, which refused to quote a 77 year old man for motor insurance. The man had a 7 year no claim bonus at the time and he brought a claim under the Equal Status Act. The insurers admitted the refusal on grounds of age but denied that they operated a discriminatory policy. The Equality Officer found that the insurers, in not being able to produce full details of the actuarial or statistical data that had guided their over-70's stance, had failed to satisfy him that the data had come "from a source on which it is reasonable to rely". He also found that the Insurer's action was not "reasonable having regard to the data or other relevant factors" as it did not take all relevant factors into account in considering individual requests but simply applied an "across the board" policy of refusing quotations to persons over 70 years of age. The claimant was awarded €2,000 (roughly the 3 years' premium).
- In another case, this time in the health insurance area, the Equality Authority was contacted by a woman aged 90, who had been a member of an Insured Scheme for over 40 years. She was still in full-time employment and drove to work each day. As she liked to travel abroad twice a year, she applied to the Insurer for annual travel insurance, but the Insurer refused to quote her, as its policy was not to offer such insurance to members aged over 79. The Equality Authority wrote to the Insurer to explain that such a blanket ban on providing insurance to a person because of her age might be in breach of the Equal Status Act 2000, as had been found in the October 2003 case. The Insurer initially disagreed but, following further correspondence with the Authority, negotiated with its underwriters to provide cover for members over 80 years.

A.3. Observations from an article titled “Mass. Commissioner says auto insurance reforms deliver competitive market and consumer choice” in the May 2008 Casualty Actuarial society Actuarial review³⁸

Country: US - Massachusetts

With the highest motor insurance claim rate in the U.S, the State of Massachusetts moved on 1 April 2008 to competitive market pricing for motor insurance for the first time in over 30 years. The restrictions had led to a situation where good drivers were subsidising the bad and fewer insurance products were being offered – only 19 companies in the market from over 100 in 1977. There was confidence that rates would not become “excessive, inadequate or unfairly discriminatory”. The earliest rates filed were reductions of between 2.2% and 15.5% on the existing tariff.

Under a reformed system, consumers could shop around for the best coverage and prices, choosing their own motor insurers. This would help some of the state's best drivers tailor coverage to their needs and get the low rates they deserve; and give high-risk drivers incentive to improve accident and claims rates—and take personal responsibility for their actions behind the wheel. Rates will be reflective of actual driving records; with more consumer choices and greater consumer responsibility, consumers stand poised to enjoy these competitive marketplace benefits

One of the most contentious parts of these reforms was whether to allow insurers to use socio-economic factors in the rating process. They persisted with a central group of factors which could not be used for example age, sex, education and occupation.

The issue was encapsulated in the needs of stakeholders: The consumers want low prices and high coverage. The companies want to manage their exposure to risk. The regulators want availability and affordability for consumers and a healthy insurance market.

³⁸ <http://www.casact.org/newsletter/index.cfm?fa=viewart&id=5572>

A.4. The Impact of de-regulation in the motor insurance market

Country: US – New Jersey

The US state of New Jersey provides an interesting, and recent, case study in de-regulation. In 2002 the status quo was described in the paper “A roadmap to market stability for the New Jersey private passenger automobile insurance market” by John Worrall³⁹. Worrall summarises the key problems with the New Jersey motor insurance market in 2002 as

- excessive rate regulation with not enough price flexibility to enable firms to adjust to changing economic conditions, or the market to generate the appropriate price signals for efficient resource use or to offer the appropriate incentives for safe driving. This price regulation, coupled with a “take-all-comers” rule and a fixed accounting “excess profit” rule, virtually guarantees market inefficiencies and, where possible, the **exit** of firms;
- insurers held captive, with their business in other lines of insurance used as leverage (or as thinly veiled instruments to subsidize the auto line) to delay or subvert market exit in the face of losses and surplus depletion - a recipe certain to discourage **new entrants**, and to further exacerbate the problems generated by price controls and unkept promises; and
- a system of rate caps which have generated a host of subsidies; penalizing good drivers and subsidizing bad ones; charging customers who live in some areas too much for their insurance, and those who live in other areas too little.

In the executive summary, Worrall collects the “seven steps to a highly effective New Jersey insurance marketplace” where he outlines the stages to be followed in order get a more efficient and cost-effective motor insurance market. Those steps respond to specific situations that were not working in the New Jersey motor market, and give a flavour of the level of regulation that was involved:

1. Adopt flexible rating,
2. Eliminate “Take-all-comers” and non-cancellation rules,
3. Implement all previously enacted reform measures immediately,
4. Eliminate the “license surrender” provision,
5. Eliminate the profit restriction law and allow companies to compete for profits,
6. Learn from other states,
7. Form a blue ribbon panel to draft a transition proposal to inject competition into our regulatory system.

Reforms began soon afterward, and by 2006 the situation had been substantially reversed. The situation in 2006 is described by an article in the New York Times (August 24th) “Car Insurance Rates Drop in New Jersey”⁴⁰. The following is a series of selected extracts from the *New York Times* article.

“For the first time in decades, prices for coverage are falling in the state and insurance companies are fighting for drivers’ business. Roadside billboards cry out with special deals; radio and television are peppered with car insurance advertisements.”

“It is a mammoth change in a state where auto insurance has been a long-running nightmare and it puts New Jersey in line with auto insurance practices in most of the country. More tellingly, it provides a case study in what happens when competitive forces are unleashed and markets are allowed to operate more freely. And while some drivers are worse off, the vast majority of consumers have gained from the changes.”

³⁹ Professor of Economics and Chair, Rutgers University, Camden, NJ 08102.

⁴⁰ http://www.nytimes.com/2006/08/24/business/24insure.html?pagewanted=1&_r=1

“Throughout the country, New Jersey and Massachusetts stood out for their heavy regulation. Some of the biggest insurers shunned the states. But that started changing in New Jersey when state officials, worried that even more insurers would leave, finally decided to give the industry much more flexibility with prices and driver ratings.”...“The changes began to go into effect nearly three years ago, but the full impact is just now being felt”.

“Insurance regulators say more than 75 percent of New Jersey’s drivers are now paying less for auto insurance and that further reductions are expected. Auto insurance prices have been declining around the country, as fewer accidents have been reported and big inroads have been made against fraudulent auto insurance claims. But nowhere are prices falling as sharply as in New Jersey. And insurance experts say that the easing of regulation in New Jersey has been by far the most important factor.”

“Some of New Jersey’s worst drivers are paying more than before and some drivers have experienced little, if any, change in their premium costs. But agents around the state say costs have fallen for most of their customers and many are paying as much as 30 percent to 40 percent less. Even some drivers with poor records are saving money. Over all, state regulators say, drivers have saved more than \$500 million since the regulatory controls were relaxed.”

“With nearly 20 new companies doing business in New Jersey — introducing much more variation in price and service levels among insurers — nearly a third of the state’s three million drivers have switched carriers.”

“Under the new rules, auto insurers are free to develop their own rating methods, as they are in most states. As a result, certain individuals will do better at one company while others could be worse off.”

“Since the mid-70’s, auto insurance prices in New Jersey had been higher than anywhere else in the country. But even so, insurers contended that they could not turn a profit. Trying to keep insurance affordable and available, officials layered on regulations. With competition limited, lower-cost insurers simply avoided the state. As voters complained to lawmakers, regulators made it more difficult for insurers to raise rates. One consequence was that in good years insurers held off from requesting lower rates for fear that when their fortunes turned, they would not be permitted to reverse the process.”

“At the same time, because the rates were capped and insurers were required to provide coverage to all but the most horrendous drivers, the companies said they were often selling insurance at less than their estimated costs. The more coverage they sold, the insurers contended, the more money they lost. So they tried to keep good old customers, but avoided new ones.”...“To keep rates tolerable in cities like Newark and Camden where auto accidents were more common and theft was rampant, state officials permitted insurers to compensate by increasing prices more in the suburbs. But to avoid selling to higher- risk drivers, insurers operated few agencies in the cities and set limits on how many policies agents could sell. In Camden, Bienvenido Calaf Jr., a partner in the Alston-Calaf & Associates agency, said he routinely had customers waiting three months for coverage.”

“The situation approached the crisis point three years ago. State Farm and American International Group, which together insured about a million drivers, were threatening to leave New Jersey. State Farm was already refusing to renew 4,000 drivers a month. The insurers had always seen great potential in New Jersey with its largely affluent population and one of the greatest concentrations of cars in the nation. They increased their pressure in a long campaign for change, and Gov. James E. McGreevey and the State Legislature stepped back and let market forces work. It was not radically different from the way auto insurance was sold in most of the country. But in New Jersey it was revolutionary.”

“In place of the few rigid rate categories, insurers are now employing computer programs to come up with hundreds, if not thousands, of gradations in prices. The insurers say these programs, now in use in most states, enable them to better match prices to the risk presented by each driver. A result, generally, is that better drivers pay less and worse drivers pay more. That has been widely accepted because there are far more drivers with unremarkable records than ones checkered with crashes and speeding tickets.”

“Consumer advocates, among the most vocal critics of state officials and auto insurers as the insurance situation worsened, have cautiously welcomed most of the changes. “Over all, insurance is more available,” said Phyllis Salowe-Kaye, the executive director of New Jersey Citizen Action. But she is concerned that the state now permits insurers to use credit ratings, occupation and education in evaluating risk and she fears that this might increase costs for low-income people”.

“For many New Jersey residents, this is the first time they have a real choice. Under the new rules, both Geico and Progressive Insurance, two of the most competitive auto insurers in the country, have begun selling coverage in New Jersey. Altogether, 17 new auto insurers have entered New Jersey, bringing the total to 69. Regulators say they are in discussions with several more.”

“As the ranks of new companies have grown, Mr. Tiene, the Skylands executive, said the state’s riskiest drivers — who account for a disproportionate amount of accidents and costs for insurers — have been spread over a wider base. ‘At the same time,’ he said, ‘you’re able to charge them a more appropriate rate.’ So insurers’ prospects of profits have risen, even as they have generally lowered prices.”

A.5. Observations from an article in the Casualty Actuarial Society, Forum Winter 2007 titled "Designing a New Automobile Insurance Pricing System in China: Actuarial and Social Considerations"⁴¹

Country: China

Rate making in China is relatively free of discrimination regulation but a number of practical constraints apply:

*Traditionally, the characteristics of the vehicle being insured were of primary concern to Chinese insurers, with driver attributes given little or no consideration. Culturally, insurance agents and their customers are not comfortable with providing information about the potential insured to the insurance company. As one can imagine, this has been an area of dispute among foreign and domestic insurers, as well as regulators.

*While some system that assigns the highest risk driver to the vehicle for purposes of insurance rating is preferable and such a system was scheduled for implementation as soon as possible after compulsory insurance requirements went into effect on July 1, 2006.

*At this time, the "sum insured" (value of the vehicle) is the most important risk factor in China. In contrast to other countries, Chinese insurers do not use vehicle years as the exposure unit instead of sum insured. The mechanical application of techniques and methods, for a system in which the exposure base is the value of the vehicle rather than vehicle years, will create difficulties.

*According to the CIRC (China Insurance Regulator), the total price change is limited to a 30% range up and down now, and the premium will not be allowed to be readjusted again within six months.

*This competitive market structure makes it very difficult to share information and resources with smaller companies. This leads to heterogeneity in underwriting practices for each company, and information that produces bigger deviations than the actual market

*Data standardization has been low in the past, there is an abundance of garbage data, the information value of data is insufficient, and the support function of the information technology system is relatively weaker in such areas as historical data management.

*Despite national unified clauses practiced by domestic insurers prior to the sweeping automobile insurance reforms, there were extensive differences in actual operational processes. Many branch companies' rates fluctuated multifariously in the year 2005's motor insurance data and the range was not very small.

*Deception by both businesses and customers is still rampant in an attempt to obtain insurance coverage at a favorable rate.

*GLM primarily includes the additive and multiplicative models. The additive model, despite imperfect theoretical deductions, is created under some assumptions which cannot necessarily be satisfied in actual applications. China Pacific Insurance Company, for example has encountered some problems during the process of additive model application. The sum of all increments totalled more than 100%, which exceeds the regulated limitation value (50%) mandated by the CIRC.

*The use of deductibles is very popular in other countries, but is not acceptable in China by most consumers. As one can imagine, this causes a high frequency rate, with the cost of claims settlement sometimes exceeding the actual loss. PICC set up a deductible within many of its policies for

⁴¹ <http://www.casact.org/pubs/forum/07wforum/07w67.pdf>

RMB500, which caused many of their policyholders to become angry and switch to another carrier. It is considered a major reason for the loss of market share by the company.

A.6. The Hindu article reporting on a proposal to move to a free market regime from a tariff one (own damage motor insurance, 2004)

Country: India

Free market regime for motor insurance favoured - Extract from the Hindu 42

"In what could bring major relief to insurers, an IRDA (Insurance Regulatory and Development Authority) panel today mooted amendment to the Motor Vehicles Act and free pricing of non-life products including motor insurance instead of the present administered tariff regime.

In far-reaching recommendations, the IRDA panel headed by S. V. Mony asked the Centre and the States to ensure that all vehicles on the road were duly insured as per the Motor Vehicles Act.

To reduce the losses suffered by insurers on account of third party liability, it asked the Government to amend the Motor Vehicles Act to remove lacunae in areas pertaining to unlimited liability, concessional court fees, jurisdiction and statutory time limitations.

The panel also mooted a Motor Third Party Insurance Pool by way of contributions from all insurers in proportion to their market share. Favoursing a 'free market regime' for the whole motor insurance business, the panel said the centralised rating regime under the existing tariff for owners damage be replaced by a system of rates, terms and conditions administered by individual insurance companies with safeguards and internal and regulatory compliances.

The group proposed that the existing tariffs fixed by the IRDA's Tariff Advisory Committee (TAC) should be used as 'guide rates.' While proposing major relaxation, the panel listed out certain safeguards for insurers. The panel strongly recommended that the new products have to get approval from the IRDA.

Moreover, the IRDA panel said insurers should not be allowed to offer solely Own Damage covers without Third Party insurance.

"Companies should not refuse pure Third Party insurance cover," it added.

To price the Own Damage portion of motor insurance, the panel said insurers had to take into consideration 30 rating factors including make and model, engine power, age of vehicle, licensed carrying capacity, safety features and repair and replacement costs.

The insurers have to consider the driver or owners features like age, driving experience, driving record, health and habits. The other aspects that have to be considered are annual mileage run, geographical location, type of goods transported.

The Mony panel was set up by the IRDA as a follow up of the recommendation of Justice Rangarajan Committee on de-tariffing motor insurance. The panel was asked to prepare a roadmap for de-tariffing the Own Damage portion of motor insurance. The IRDA has invited public comments on the Mony committee report before taking a final view on de-tariffing."

⁴² The Hindu. (2004). *Free market regime for motor insurance favoured*, published via <http://www.hinduonnet.com/2004/06/18/stories/2004061803741500.htm>

A.7. The impact of lifetime community rating and the challenges of applying risk equalisation (Healthcare Insurance)

Country: Ireland

The UK model of PMI is positioned as supplementary coverage to the NHS with limited complementary benefits. This contrasts with other EU member states who provide more substantial complementary coverage to the public health service and utilise risk equalisation schemes to underpin the complementary PMI system. This case study considers the risk equalisation scheme that has been used for health insurance in Ireland.

Background

VHI Healthcare, established in 1957 as VHIB (Voluntary Health Insurance Board) a non-profit, autonomous body dominated the Irish market until 1994 when a limited element of competition was introduced. The third non-life insurance directive triggered this change and the 1996 market entry of BUPA Ireland. Quinn Group purchased BUPA (Ireland) in April 2007 and now trades as Quinn Healthcare. VIVAS Health joined the market in 2005 and was acquired by AVIVA in April 2008 and trades as Hibernian Health. The market remains dominated by VHI which probably accounts for some 80% of the Healthcare market. Over 50% of the Irish Population have PMI cover and rely on it to avail of acute hospital services.

Insurers contract with selected providers, utilize private beds in public hospitals and pay hospitals with a fixed rate per diem. Doctors are able to work in both the public and private sectors.

The Health Insurance Act of 1994 defined the foundations for PMI community rating (age, gender and prior utilization), open enrolment and lifetime cover (Department of Health and Children, 1999)⁴³. A risk equalisation scheme was also allowed in order to support the use of community rating via risk equalization transfers where there were material differences in insurer risk profiles. New insurers were able to exempt themselves from the risk equalisation scheme during the first 3 years of trading. However, ultimately the intention was to support an equitable distribution of risk amongst insurers and promote a stable, sustainable community rating insurance offer to individuals, particularly the old and those with pre-existing conditions. The legislation was also intended to give the regulator considerable scope in the assessment of risk profiles and the calculation and transfer of equalization funds between insurers⁴⁴.

The concept of lifetime community rating, introduced by The Irish Health Insurance (Amendment) Act of 2001, also allows insurers to apply a late entry premium loading for those who defer purchasing private healthcare insurance until they are age 35 or more.

VHI does not currently fall under standard Irish insurance regulation requirements and is not subject to the same solvency and capital requirements as its competitors. This is a major concern of its competitors and the operation of a free and competitive market.

Risk equalisation

Insurers are subject to a risk equalisation scheme which was intended to be applied for the first time in 2005, but has become the subject of a protracted dispute between the market entrants (since de-regulation), the incumbents (prior to de-regulation) and the Government. The Society of Actuaries in Ireland set up a working party in 2002 to review the actuarial position on the risk equalisation scheme. The working party concluded that risk equalisation in some form is a logical concomitant to a voluntary health insurance scheme based on community rating, open enrolment and lifetime cover⁴⁵.

⁴³ Mossialos, Elias and Thomson, Sarah. (2004). Voluntary Health Insurance in the European Union, *European Observatory on Health Systems and Policies*, published by WHO Regional Office for Europe, Copenhagen, Denmark. [Not sure if this reference works as removed the actual sentence it was previously linked to.]

⁴⁴ Department of Health and Children. (2001). *Commission's Study on Voluntary Health Insurance*, Department of Health and Children, Dublin, Ireland.

⁴⁵ Caslin, John et al. (2002). *Report of Working Group on Risk Equalisation*, Society of Actuaries in Ireland, Dublin, Ireland.

Their recommended position was that a risk equalisation scheme based on age and gender should be introduced, preferably on a prospective basis. They added that

“this would go some way towards sharing of the risk profiles between insurers but would also favour new entrants to the market and would avoid the ambiguities and complexities of avoiding a utilisation parameter in the scheme”.

Risk equalisation was strongly supported by VHI Healthcare as a proposal and at the implementation stage. BUPA Ireland identified the risk equalisation scheme as a potential mechanism to maintain the existing VHI monopoly and undermine the stability of the market. BUPA made a formal legal challenge to the European Court of First Instance on the grounds that the risk equalisation scheme is illegal under the third non-life insurance directive. On the 12 February 2008 the European Court of First Instance issued its judgement confirming the Commission's original decision approving Ireland's risk equalisation system for the private medical insurance sector dismissing the challenge to this decision by private health insurer BUPA⁴⁶.

Risk equalisation is a difficult concept to apply due to often simplistic rating criteria and proxies available to insurers to predict morbidity levels amongst prospective customers. We believe there is a socio-economic gradient which underpins actual morbidity experience which can serve to make premium rates disproportionately expensive to these groups in the population. The weight afforded to this issue is related to the core statutory provision, e.g. health care sectors service menu, compared with those types of health and care services often at the margins of statutory provision in EU member states.

Following an Appeal by BUPA made to the Irish Courts against the application of Risk Equalisation the Irish Supreme Court ruled that the proposed application of risk equalisation was invalid⁴⁷. The ruling was based on the fact that the Minister for Health had adopted it on the basis of an incorrect interpretation of the meaning of the phrase "community rating across the market for health insurance" as set out in the Act. In the judgement by the Chief Justice⁴⁸, it said that the correct interpretation of the term "community rating across the market for health insurance" in the Act meant community rating "within a plan" or contract across the market, i.e. that each insured person within a policy must be charged the same premium, irrespective of their risk profile. Thus risk equalisation could not take place across different plans. As there is no common plan issued by any of the Irish Health insurers and thus the Risk Equalisation process is legally unenforceable under current legislation⁴⁹.

In separate legal cases Quinn Healthcare has appealed other aspects of the Risk Equalisation process and its application to them as a new entrant.

The Ireland case study with health insurance risk equalisation indicates that it is essential to ensure that both incumbent and new market entrant insurance providers are fully converted to the regulatory framework and mechanisms used to manage risk selectivity at the point-of-sale. Otherwise the major disparity in respect of the portfolio mix, between the market incumbent and the new market entrant, can create (and in Ireland has created) a significant challenge to Government and the regulators to implement risk equalisation systems.

⁴⁶ European Union. (2008), Judgment of the Court of First Instance of 12 February 2008 — BUPA and Others v Commission, *Official Journal of the European Union*, C 79/25, 29.03.08, published via <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2008:079:0025:0025:EN:PDF>

⁴⁷ <http://www.irishtimes.com/newspaper/breaking/2008/0716/breaking78.htm>

⁴⁸ <http://www.courts.ie/Judgments.nsf/f69fbd31c73dda2580256cd400020877/163e69db2e4a19e880257488002d186b?OpenDocument>

⁴⁹ http://www.finfacts.ie/irishfinancenews/article_1014214.shtml

A.8. The re-emergence of risk selection under risk equalisation (healthcare insurance, 2007)

– Country: Switzerland

In Switzerland, where risk equalisation is practised for healthcare insurance, the following article extract (which covers Belgium, Germany, Israel, the Netherlands and Switzerland) compared and contrasted free market pricing tendencies in a risk equalisation environment⁵⁰. It was interesting to note that a regulated (risk equalisation) environment in those countries over several years had resulted in insurers finding ways to gain competitive advantage by pushing the boundaries on what was permissible under the regulations, as compared with an earlier study 6 years earlier⁵¹.

Risk adjustment and risk selection in Europe: 6 years later

Abstract of the article

“In this paper we analyse the developments concerning risk adjustment and risk selection in Belgium, Germany, Israel, the Netherlands and Switzerland in the period 2000 to 2006. Since 2000 two major trends can be observed. On the one hand the risk adjustment systems have been improved, for example, by adding relevant health-based risk adjusters. On the other hand in all five countries there is evidence of increasing risk selection, which increasingly becomes a problem, in particular in Germany and Switzerland. Some potential explanations are given for these seemingly contradictory observations.

Since the mid-1990s citizens in these countries can regularly switch sickness fund, which should stimulate the sickness funds to improve efficiency in health care production and to respond to consumers’ preferences. When looking at managed care there are some weak signals of increasing managed care activities by individual sickness funds in all countries (except Belgium). However, with imperfect risk adjustment, such as in Israel and Switzerland, insurers will integrate their managed care activities with their selection activities, which may have adverse effects for society, even if all insurers are equally successful in selection.

The conclusion is that good risk adjustment is an essential pre-condition for reaping the benefits of a competitive health insurance market. Without good risk adjustment the disadvantages of a competitive insurance market may outweigh its advantages”

Commentary on the article

- (a) It is important to try to scenario-test the practical outcomes and future scenarios of applying ‘All pay the same’ models to competitive personal lines insurance markets. The implementation of risk adjustment or risk equalisation systems to support open-enrolment, community rated health insurance has been studied over the period 2000 to 2006. The study identified a link between weaknesses in some risk equalisation schemes and the scope (and incentives) for insurance providers to adopt forms of risk selection that can serve to undermine the public policy objectives of government regulated ‘all pay the same’ models operating in a competitive insurance market:

⁵⁰ van de Ven WPM, et al. (2007). Risk adjustment and risk selection in Europe: 6 years later, *Health Policy* (2007), doi:10.1016/j.healthpol.2006.12.004

⁵¹ van de Ven WPM et al. (1999). Risk-adjustment in Competitive Health Plan Markets, Chapter 17, *Handbook of Health Economics* (eds. Culyer AJ and Newhouse) JP, 31 March 1999.

- (b) The Swiss risk equalisation model was based on age, sex and region with little incentive for funds to compete via the quality and cost-efficiency of care. The study argues that growth in market share was achieved by risk-selection strategies. Health funds established forms of conglomerate via holdings in daughter company funds to facilitate risk selection. One of the largest funds in the study consisted of 14 different funds operating under a single brand name. The funds were differentiated by premium levels charged. It is understood that the fund would use the lowest-priced member of the conglomerate to generate consumer leads. The salesmen would profile insurance applicants and re-direct the applicant to the fund whose premium reflected the perceived risk level of the applicant.
- (c) This distribution strategy worked with the exception of a minority of well-educated and insistent consumers who persisted in trying to obtain the most competitively priced product. The majority of consumers, in a large part due to lack of transparency and access to comparative product information, were enrolled by the fund's conglomerate member nominated by the sales person. Risk-selection strategies also had the potential to destabilise the portfolio of competitor funds where the move of insured lives to the conglomerate fund was not risk neutral. For example, van de Ven cites evidence that younger lives (19 to 29 years) tend to switch three times more often than people aged above 65, and switchers have half the health care expenditures (compared with the non-switchers).
- (d) Health Funds would also extend an exclusive offer of contracts with high deductibles to selected risks or let all applicants fill out a health status declaration, although such a form is intended only for customers applying for a supplementary insurance contract. The use of supplementary insurance applications is a potentially effective tool for risk-selection where supplementary insurance is not subject to the same regulation as the risk-equalisation pool product. The study also refers to evidence of the use of delayed reimbursements for insured customers with chronic conditions to encourage them to leave the fund.

A.9. The use of a state insurer of last resort funded by an industry levy (Motorbike Insurance)

Country: Spain

In 1999 the Spanish legislation governing Motorbike insurance changed such that insurers had to pay the healthcare costs for their insureds regardless of fault – this led to very high prices and hence potentially no insurance for a lot of younger bikers – although if an insured is declined by 3 insurers then there is a state insurer of last resort.

Background:

Health care agreement

In 1999 a new agreement between the public and private health care sector and insurance companies was issued. This agreement stated the following:

“En los supuestos en que intervengan más de un vehículo, no podrá alegarse como causa para no hacerse cargo del pago de prestaciones el hecho de la culpabilidad y, por tanto, que la obligación de indemnizar sea imputable al conductor del otro vehículo”

In English an approximate translation would be “In case more than one vehicle is involved, the fact of fault/non-fault will not be an excuse to pay the costs, therefore the liability of rewarding goes to the driver”

In other words, an insurer must pay for its policyholder's health care independently of whether it is a fault or non-fault claim. Therefore motorbike insurance becomes a potentially more unprofitable business.

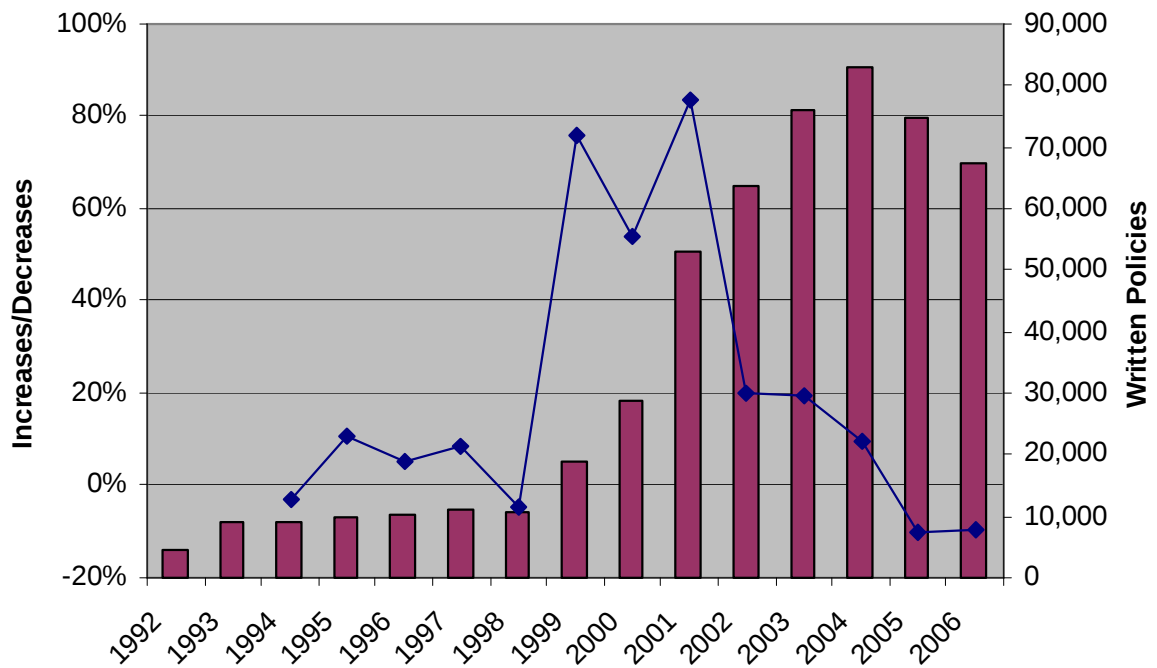
The Consorcio

The Consorcio de Compensación de Seguros is a public entity, whose origins lay in the Spanish Civil War. All policyholders contribute to this through a levy on insurers. The Consorcio is closely linked to the cover of extraordinary risks, eg for claims where insured drivers are involved it *provides coverage to drivers that can't find cover in the free market*. The Consorcio also deals with more tasks not relevant for our purpose (eg flood cover and pays if accidents are caused by uninsured drivers).

Results

The Consorcio insures anyone with no chances of getting motor insurance in the free market, therefore if the Consorcio didn't exist, its underwritten policies are potential un-insured vehicles.

Cosorcio written policies (Bikes)



The data is clear, this agreement brought increases of 76%, 54% and 84% for year 1999, 2000 and 2001 respectively of potential un-insured bike drivers

APPENDIX B – THE EQUALITY BILL – AGE DISCRIMINATION IN GENERAL INSURANCE COMMENTARY FROM THE ACTUARIAL PROFESSION

Introduction

1. This commentary is provided by the Faculty and Institute of Actuaries in response to the Right Honourable Harriet Harman's statement to the House of Commons on 26 June 2008.
2. The Faculty and Institute of Actuaries are the two professional bodies for actuaries in the UK; the bodies are referred to collectively as 'The Actuarial Profession'. The Profession has an obligation to serve the public interest. It seeks to do so by informed contribution to debate on matters of public interest. Our objective in submitting evidence is to offer technical expertise on the implications of different policy choices facing UK and European legislators. (Further information about the Profession is provided in the Appendix.)
3. This commentary extends to general insurance only; we do not offer information on the wider general aspects of goods / services covered by the proposed legislation, or on life insurance or savings products as the focus of our discussions with HMT has been mainly on travel and motor insurance.
4. The Profession welcomes the introduction of the UK Equality Bill and the related proposed EU Council Directive which both aim to promote a fairer society. We do, however, have some concerns around the practicalities of some of the potential solutions envisaged in the legislation.

The Current Situation

5. At present insurance companies are free to set premium rates using a range of rating factors including age. This practice reflects the fact that age is a key factor in determining the cost of providing the insurance, since it can materially influence both the likelihood of policyholders making a claim and the size of such claims when they occur. Not using age as a rating factor would result in lower risk age groups (for example ages 40-70 in motor insurance) subsidising higher risk age groups. Not rating by age could also result in changed behaviour, for example young drivers might be more inclined to drive high performance sports cars if, when subsidised in such a way, insurance for such cars became more affordable.
6. Insurers are also currently able to restrict availability of their products to certain age groups in certain cases. Examples include motor insurance where cover may be limited to drivers between 25 and 80, or travel insurance where cover is available only up to a certain age. Sometimes these age limits may vary depending on the circumstances, for example in motor insurance a minimum age of 30 might apply to those insuring larger or more powerful cars.

The Proposed UK Equality Bill

7. We understand that the three options that have currently been raised by the Expert Working Group which HM Treasury has convened on age discrimination in financial services are:
 - taking no action
 - voluntary action by the industry
 - legislation.
8. Our understanding is that in the event of legislation, in order to prevent a situation where low risk age groups pay higher premiums to subsidise higher risk customers, such legislation would allow companies to continue to charge higher prices for higher risk age groups, but that it may require that such prices are 'actuarially justifiable'. We further understand that the legislation is considering banning the current practice of declining to offer insurance to customers in certain age groups.

Practical Considerations arising from Potential Legislation

Actuarial assessment of risk costs by age

9. Actuarial techniques used in general insurance are statistical in nature and rely on the existence of a large volume of data which can be statistically analysed to determine how the cost of providing insurance varies by potentially inter-related rating factors such as age, type of vehicle (for car), socio-demographic factors, claims history and so on. These techniques work very well for mass market insurance where there are large numbers of customers which leads to large volumes of statistically credible data. The use of these techniques has led to an innovative, highly competitive market place.

10. Not all companies, however, have sufficient data to derive credible estimates of the effect of age on claims experience over and above other rating factors. For some companies this is purely a function of their small size, for others it results from specialising in particular segments of the market (for example, SAGA only insures over 50s). Companies do not make their actuarial data publicly available as it is a source of competitive advantage.

11. Consequently if the proposed legislation were introduced many companies (and all new insurers) would have insufficient data to demonstrate the statistical effect of age on the risk cost for all ages. Some companies would find themselves in the difficult position of having, by law, to quote actuarially justifiable premiums yet having insufficient data by which to do so on a statistical basis.

12. Even where it is possible to derive a credible estimate of the effect of age on claims experience, there are several potential reasons why the resulting premium might not be directly proportional to the claims cost. These include the use of fixed monetary loadings reflecting the expense of administering the policy, and marketing activity which directly or indirectly results in commercial discounts being offered for different age groups.

Offering insurance for all age groups

13. The above issues would be particularly problematic in the event of insurers being required to provide insurance quotations for all age groups.

14. There are, for example, very few 95 year olds driving so, by definition, few if any insurers will have sufficient data to rely solely on statistical techniques. Few insurers will have, for example, credible experience of insuring 18 year olds in Ferraris. Another example is travel insurance where companies may have plentiful statistics on 40 year olds taking skiing holidays, but will have very little, if any, data on 80 year olds taking skiing holidays.

15. Actuarial techniques are less applicable for customers whose insurance needs are more unusual or for customer groups with small numbers. At present the insurance needs of such customers are often met by specialist companies who will tend to use more in-depth sales processes combined with specialist underwriting judgement to set prices. To the extent that actuarial justification requires statistical evidence, it would be very difficult to set actuarially justifiable prices for such customers.

16. The lack of credible data in such cases could also increase the amount of capital which insurers are required to hold to cover the possibility of adverse future experience. This increased capital requirement would result in increased premium rates for the policyholders in question.

17. In determining prices for insurance contracts there is clearly a continuum between mass market risks for which actuarial techniques are readily applicable and the extreme examples above where actuarial techniques are of less use. Currently companies make a commercial decision at which age points they feel unable to quote premiums based on their own data, the cost and method of distribution, capital requirements, and their business model more generally.

Age bands

18. In some cases, in particular for travel insurance, premiums vary by bands of age (eg under 30, 30-60, 61-65, 66-70) rather than by individual ages. As a result customers moving from one age band to the next may experience a large premium increase.

19. We believe that actuarial techniques could be used to replace the use of age bands with premium rates calculated individually for each age.

20. We believe that the use of age bands is driven by the need for distributors to have a product which is easy and cheap to sell rather than by technical pricing considerations.

Conclusions and Recommendations

21. We have highlighted above some of the practical considerations arising from the proposed legislation.

22. The Profession is concerned that some of the potential solutions envisaged in the proposed legislation may not be workable in practice.

23. The Profession recommends that a report be commissioned from independent experts to explore the practical issues around the potential legislation in more depth.