

Preface for distribution to the Profession

This paper has been written by the GIRO working party: Discrimination or Differentiation: What's Fair? The intended audience is not the GIRO convention, nor indeed the wider Actuarial Profession.

The paper seeks to inform those policymakers whose responsibility it is to determine what is "fair", and to develop consumer understanding of insurance pricing, in non-technical language. It explains how non-life insurance operates, debates what "fairness" means, and explores some of the consequences of adopting different approaches to differential pricing.

Following GIRO 2012, the working party will work with the Profession to circulate the paper appropriately outside of the Profession, as required.

Fairness in Insurance Pricing

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1. Executive Summary

This paper has been authored by a working party that was formed at the Actuarial Profession's 2011 General Insurance Research Organisation (GIRO) convention, at the request of the Profession's General Insurance Practice Executive Committee (GIPEC).

In recent times, the issue of fairness and equality in insurance pricing has come under significant public scrutiny and debate. This paper is in response to that debate and outlines the views of the Actuarial Profession in the context of general insurance, by which we mean all non-life consumer insurance products (such as motor insurance, household insurance and travel insurance). The intended audience for this paper is interested parties, including policymakers, who do not necessarily specialise in insurance.

The key issue lies in determining what "fairness" means. Fairness is subjective, and it is possible that one person may view both sides of the same argument to be in some sense "fair". Applied to insurance pricing, there are two extremes, namely an equal price for all regardless of their likely cost of claims, and a specific price for each consumer in relation to the likely cost of claims in the period of insurance cover. In between these two ends of the spectrum, there are many alternatives of which the most common approach of grouping consumers using factors such as age, gender, address, and so on, is one.

In this paper we have not sought to determine which approach to insurance pricing is "fairest". Indeed, this is unlikely ever to be agreed among stakeholders of the insurance industry, including consumers. Instead, we have sought to explain how insurance is priced, and to outline the consequences of changes to this approach. It is our conclusion that it is for society and policymakers to determine what is fair (and therefore what the objective of policy in this area should be) and it is our aim to help inform both consumers and those responsible for policy as to the likely consequences of such decisions.

With the imminent EU ban on the use of gender in insurance pricing, and further debates around the use of other pricing factors, such as geography and age, we have considered what the impacts would be if further factors were to be removed from insurance pricing. There are clear consequences, some of which are short-term and some longer-term, and some of which are likely to be detrimental, to consumers overall, even if some consumers are better off. Some of the key consequences of further restrictions will be societal, such as the impact on driving behaviour and road deaths, whereas others will be financial, including the key question of whether insurance remains affordable, and what this means for insurances which are compulsory, such as third party motor insurance.

The structure of this paper is as follows:

- In section 2, we start by providing an introduction to the workings of non-life insurance, explaining how insurance pricing has developed and the impact of competition on the insurance market.
- In section 3, we then explore different perspectives on fairness in insurance pricing, and, in section 4, go on to outline the potential consequences on consumers and society of placing restrictions on the use of pricing factors.

- In section 5, we identify potential alternatives to placing restrictions or controls on premiums. Some of these alternatives are more likely to tackle the underlying causes of the claims that drive high insurance costs than restrictions on pricing.
- We also include three short real world examples in sections 6 to 8 that illustrate the impact of placing or reducing restrictions on the data items that can be used within an insurance market.
- In section 9, we provide the results of consumer research into perceptions of fairness, carried out by Consumer Intelligence, in collaboration with the working party.

2. Introduction to Non-Life Insurance

Early forms of Non-Life Insurance

Insurance began as the sharing of risk between a group of people through a guild or trade. All the members of the group did a similar job and therefore were faced with similar risks. The system seemed fair because the cost of the insurance was the same for everyone, and the benefit was similar for everyone (although in any one year, one person may claim and another may not).

Modern insurance began in the shipping industry. In the 16th Century, crossing the oceans had become a lucrative business but it was still very risky, so ship-owners and investors wanted to reduce their financial risk of their ship being lost at sea. The risk varied greatly depending on the ship, the route, and the cargo that was carried. In this system of sharing (or pooling) of risk, an owner of a small ship with cheaper cargo may have resented paying the same as a bigger ship; similarly the owner of a ship taking a safer route may think paying the same for protection as a ship on a more perilous voyage was unfair.

This perception of unfairness presented an opportunity for someone able to offer insurance to small ships on safe routes at a lower price. This opportunity was grasped by insurance entrepreneurs and marketplaces began to be set up in the coffee shops of London and elsewhere. Here people with ships to insure and those willing to offer insurance could meet to agree a price for the insurance. In this way, the concept of a 'risk factor' was introduced into insurance - the price paid now depended on certain attributes of the risk being insured.

In total, the same ships were being insured and so the total risk remained the same. Reductions in prices for less risky ships were more or less balanced by increases in prices for more risky ships. You could imagine that the owners of these risky ships may have thought the new system, where they now needed to pay more for the same cover, was unfair.

How Non-Life Insurance works

In insurance, the customer pays a relatively small known amount, the premium, to avoid the risk of having to pay out a usually much larger amount (and, on some occasions, a very large amount), the claim. The majority of people buying insurance will pay more in premiums than they receive back financially in claims (which will be zero if they do not claim at all). However, all customers benefit from transferring their risk of incurring very large costs across to the insurer, and the peace of mind

that brings. Insurance also enables the customer to spread their costs over many years, by paying a regular premium to cover irregular costs.

Using individual details of the risk (in our example, the ship, its cargo and its route), insurers group policies that are expected to be similar in terms of the likelihood of a claim and the likely cost of these claims. The price of the insurance is then set with reference to the likely resulting claims, with an allowance for the insurer's expenses and an additional element to compensate the insurer for taking on the risk.

Insuring against the losses of others

Many types of non-life insurances cover two main groups of claims. We will use motor insurance as an example:

- A. the policyholder's own losses, for example, the cost of repairing their own car after an accident, or the cost of replacing a car that has been stolen, and;
- B. the losses of others (known as third parties), where the policyholder is to blame for that loss. For example, in an accident caused by the policyholder, the third party loss is the cost of repairing the other person's car, or the cost of compensating someone who has been injured in that accident. These are known as liability claims (where the policyholder is liable for the losses of other people).

This has important implications for the way in which insurers determine the appropriate price for a policy. It means that, in our motor insurance example, the price depends on details that are related to the potential liability claims, as well as claims relating to the policyholder's own losses. This is why the price of the insurance policy can be greater than the physical value of the car being insured. For example, old cars with large engines may have a very low market value but tend to be associated with more than average, and larger than average, liability claims. This can result in higher than average premiums, even though the value of the vehicle itself is low.

The impact of competition

In general, in a free and competitive market, prices tend to reflect more closely the estimated number of and amount of claims for each policyholder.

For example, let's consider a simple world where initially there is no competition, there is only one insurer and there are no expenses other than the costs of the claims. The insurer's data shows that the claims cost on average £100 per policy.

There are only two types of customers, and there are equal numbers of each type of customer. For one type of customer, the insurer has noticed that the claims cost is on average £50 per policy, but for the other type of customer, the insurer has noticed that the claims cost is on average £150 per policy. The insurer can simply charge £100 to everybody, as the premiums collected will be enough to cover everyone's claims when put together.



Figure 1: Insurance as a simple marketplace

But let's think about what happens when a second insurer joins the market with a different approach, as illustrated in the picture above. This insurer also understands that some of the policyholders cost more to insure than others but, unlike the first insurer, decides to reflect this in the prices they charge. So they charge £50 to one group of customers (shown in green) and £150 to the other (shown in red). The first insurer continues to charge £100 to everyone.

The lower risk customers now prefer the second insurer as they can buy insurance for only £50. The higher risk customers still prefer the first insurer who is charging £100 rather than £150.

So the first insurer now has only high risk customers who cost £150 each, but has only charged £100 to each of them. As a result the insurer makes a substantial loss and is forced to reconsider its approach. The competition from the second insurer means that the first insurer will also have to reflect differences between customers in what they charge.

This simple example demonstrates what is more generally true – that the greater the competition within an insurance market, the greater the need for insurers to reflect their best understanding of the likely cost of claims from a particular policy in the price that is charged. If they do not, another insurer will. As consumers will tend to buy at the cheapest price they can, an insurer who 'gets it wrong' will tend to attract customers who will cost more to insure than the premium they pay.

We now move on to consider ideas of fairness within the context of insurance.

3. Fairness in Insurance

The Oxford English Dictionary defines ‘fair’ as: “treating people equally without favouritism or discrimination”. However, fairness is subjective, and it is possible that one person may view both sides of the same argument to be in some sense “fair”.

For most products and services, the concept of fairness is quite straightforward. Everyone receives the same product and therefore, in the interests of fairness, everyone should pay the same price. It would be odd, and likely to be seen as very unfair, if a supermarket decided to charge, say, short people (or red people) more and tall people (or green people) less for the same tomatoes. In addition, the impact of competition would also make this situation unstable because now a supermarket which charged everyone the same would attract short/red people, while the one with different prices for different people would attract only the tall/green people. As the cost of supplying tomatoes does not vary by people’s shortness or tallness, the supermarket with only tall/green customers would lose money and go out of business.

However, for insurance, the product being sold is protection against costs that are greater than the policyholder wants to risk having to pay out of his or her own pocket. In the example of early shipping insurance, the value of the protection being offered was greater for those with the larger ships or those taking more dangerous journeys, so many might consider all paying the same to be unfair. The costs of supplying the insurance are different for different ship owners, even if the insurance product seems to be the same.

Similarly, in motor insurance, whilst on paper the benefits provided to two policyholders may sound the same (e.g. motor insurance for a year), in practice, some policies are likely to result in more or costlier claims than others. This is easy to see in the case of the policyholder’s own losses as the claims clearly depend on information relating to the policyholder or their car. It can be more difficult to make the link for the losses of others we discussed earlier, which naturally depend on the details of the other car that is damaged or the other person who is injured. However, insurers across the world are able to find patterns in their data that demonstrate that certain groups of policyholders are associated with more or costlier liability claims than others. Such groups include, for example, younger drivers and those driving more powerful cars.

Fairness can be considered in the context of two extremes:

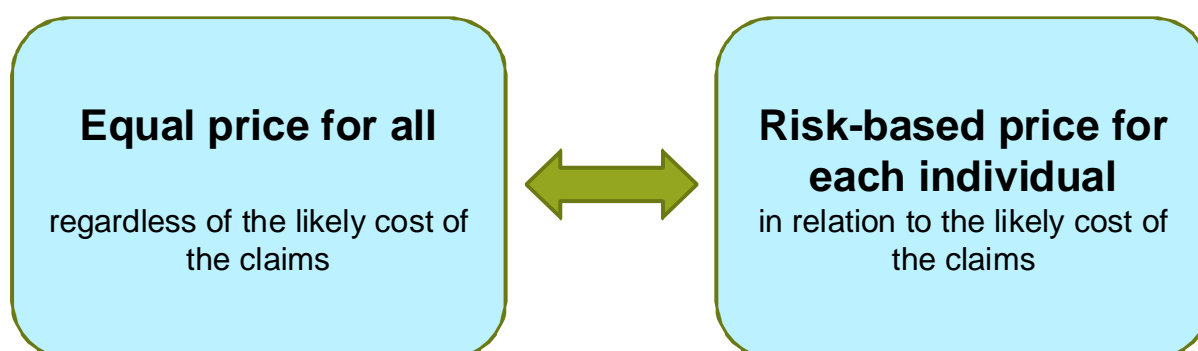


Figure 2: Fairness as two extremes

What is fair differentiation in insurance?

In motor insurance, it can be demonstrated by claims data across the world that the youngest drivers tend to have the higher claim cost. In particular, where insurers have collected data on gender as well, it can be seen that within these youngest drivers, men tend to have a higher claim cost than women. That being the case, would it be fair that older drivers pay the same as younger drivers or that young women pay the same as young men?

The other extreme represents a world where every individual pays a price that is finely tuned to their own characteristics and requires a great deal of information about that individual and the risks that they are insuring against. Taken to its extreme, most policyholders would probably find that this required a significant level of questioning. Alternatively, insurers can increase what they know about an individual policyholder by buying data from external organisations. In this world, we have moved a long way from the concept of pooling everyone together.

In practice, it is not possible to predict precisely whether an individual policyholder will have an accident, or make a claim. So, to differentiate between different policyholders, insurers have to estimate the likely claims costs for a particular policyholder. They do this by analysing the data relating to their existing and past customers to look for patterns in terms of which groups of policyholders have more and/or larger claims on average than other groups. Groups are created by reference to characteristics, commonly things like age, gender, past driving record, where the car is kept, address of the policyholder, occupation of the policy holder, how many miles the car is driven in a year and so on.

Differentiation using proxy factors

As a result, in much of the world, insurance pricing is somewhere between these two extremes, with individuals being grouped together into smaller pools where the insurer perceives the individuals in that group to be similar. Sometimes insurers use facts that are clearly related to the likely number of and cost of claims, such as the type or value of vehicle being driven, in order to divide individuals into these groups. However, insurers also use facts that are 'proxies' to other information that is much harder or impossible to obtain. A good example of this is gender. It is reasonable to assume that motor insurance claims might depend upon driver behaviour and attitude to risk. This is information that is difficult to obtain and objectively measure. Insurers have instead used gender, in combination with age, as a proxy to this, because insurance data shows that motor claims vary in a predictable way by gender and age. Insurers are effectively using gender, in combination with age, as a proxy to driver attitudes and behaviour.

The downside to this approach of using proxies is that there will inevitably be some individuals who buck the trend, who are not similar to the group in which they have been placed. Is it fair that every young man pays more than every young woman simply because he happens to be a man? There will inevitably be young men with low risk attitudes and behaviour, and young women with high risk attitudes and behaviour.

Many consider this an unfair generalisation and maintain that it is fairer not to base the price on the driver gender at all, even if it is generally true that young men tend to have higher claims cost than young women. Arguably, a half-way house where prices depend on proxy factors that pigeon-hole policyholders into groups is perceived as more unfair than either of the extremes.

Alternatively, on a practical note, it could be argued that proxy factors are a good starting point until an individual policyholder has gained enough experience to provide evidence that they are a better (or worse) risk than the group that they have been placed in, through their own claims history.

The use of proxy factors may seem fairer if the customer has a choice as to which group in which they are placed, for example, by choosing which car they drive. However, many factors that affect price are unchangeable, such as age and gender, or are impractical to change, such as where you live. This can lead to customers feeling helpless about the cost of insurance, particularly where these costs are increasing rapidly.

We include in section 9 the results of consumer research into attitudes towards fairness, which suggest that the majority of UK consumers believe the way in which motor insurance is currently priced in the UK is either unfair or extremely unfair.

Affordability of compulsory insurances

The law may require that certain insurances are purchased. For example, third party motor insurance is compulsory in the UK. Other insurances may not be compulsory in law, but may be compulsory to the policyholder in practice, for example, many mortgage lenders make the taking out of buildings insurance a compulsory condition of lending.

Where insurances are effectively compulsory, very high premiums for high risk policies can be seen as creating affordability problems for those individuals who are simply trying to do the right thing by buying insurance. Examples are motor insurance for young male drivers and household insurance for flood prone properties. Placing restrictions on the data items that can be used may potentially reduce the very high premiums for these people, and, therefore, make insurance more affordable to some. However, without any measures that reduce the level of risk within the market, these restrictions will result in other less risky policyholders paying more and subsidising the riskier groups or choosing not to buy insurance (since insurance ultimately have to cover their costs). After all, why pay for flood insurance if you live on the top of a hill?

Given that society may decide that it is right and fair to legislate on the use of certain data items within insurance pricing (and indeed already has in respect of race, religion and gender), we now consider the impact on consumers and society of putting in place such restrictions.

4. Restricting the data items that can be used within insurance pricing

Immediate impact

If a data item that has been used in insurance pricing is no longer used by any insurer in the market, then insurers that previously used that data item must adjust their pricing accordingly. The impact, at its simplest level, is that some customers are charged less than they previously were, and others are charged more. The change has no direct impact on the total cost of insurance claims, and so it could be argued that the total cost of these claims is simply being shared out differently, via a different set of rules in relation to how premiums are determined. Some individuals might see this new approach as fair and others might see it as unfair, possibly influenced by the impact on themselves, their loved ones, or those that they represent.

It is for society and its policymakers to determine how to distribute the burden of paying for insurance costs amongst policyholders. Insurers will ultimately adapt to the new rules. The longer-term effect is more likely to be felt by policyholders rather than insurers.

However, as well as the direct, or first order, impact of changing the way in which policyholders share the overall cost of insurance claims, there are a number of societal and indirect financial impacts which may result as a change in the approach to insurance pricing. Some of these impacts might be perceived as negative and others as positive, and for many, whether they are positive or negative may very well depend on whose perspective is considered.

Impact on Customer Behaviour

Reflecting risk differences in the price charged to the customer may encourage customers to adjust or moderate their behaviour or make different choices in order to reduce their risk, and, as a result, the price they have to pay for insurance. Conversely, any legislation or other mechanism that restricts the extent to which the risk can be reflected in the price, and results in some customers cross-subsidising the riskier customers, reduces the financial incentive of the riskier customers to address the circumstances or behaviour that is the underlying cause of their higher risk.

Some specific examples of this include:

Flood Protection

Some household insurance premiums are very high as a consequence of the risk of flooding to the property. As some properties have no or very low risk of flood, this can lead to some very large differences in premiums between high and low risk properties, if this difference in risk is appropriately reflected in the premium.

The introduction of cross subsidies between low and high risk properties will make insurance more affordable for those in high risk properties, but will share the burden of the cost of flooding across all policyholders. This in turn could be seen to reduce the financial incentive of those developing and purchasing high risk properties to avoid building and settling in flood plains, or in taking measures that would reduce the risk of flooding or reduce the costs of damage should flooding still occur. Overall, therefore, as a result of cross subsidies, it is possible that the total damage caused by flooding will be higher, which in turn will mean that the total premium that householders will have to pay between them increases.

Impact on Driving Behaviour and Road Deaths

The removal of pricing factors such as gender and age could mean that premiums for higher risk drivers (e.g. young males) reduce. This may encourage such drivers to drive more expensive, higher powered vehicles. The use of higher powered vehicles by higher risk drivers could lead to driving at higher speeds and consequently a greater number of road accidents and deaths.

On the other hand, it could also be argued that the reduction in transport costs for some younger drivers improves their ability to access employment.

Uninsured Driving

Drivers who choose not to take out motor insurance are a material cause of concern in many jurisdictions. In the UK the problem is being tackled directly by the introduction of Continuous Insurance Enforcement (CIE), which makes registered keepers of vehicles responsible for ensuring their vehicle is insured.

In general, however, those with the highest premiums have the greatest incentive to drive uninsured. Where gender is removed from pricing, an increase in young female premiums may increase uninsured driving within this group. Conversely, the decrease in young male premiums may decrease the uninsured driving within that group. However, there is the possibility that once comfortable with the idea of driving uninsured it may be harder to encourage drivers back to the insurance market, even with a decrease in premiums. Therefore the net effect of removing gender may potentially be to increase the overall level of uninsured driving, at least in the short term.

Other Impacts on Society

Rural & Urban Differences: A UK example

In the UK, under the Motor Insurance Regulation Bill that was proposed, geographic differences in the pricing of the third party injury element of motor insurance would be limited to pricing by “broad regions” (which equates to splitting the UK into approximately ten regions), rather than the current practice which involves rating by either postcode sector (approximately 10,000 areas) or individual postcode (approximately 1.8 million areas) or a combination of the two.

For example, this would mean that in a region such as northwest England, the same price for third party injury cover would be charged for an otherwise identical customer in Kendal in the Lake District as for a customer in central Manchester. However, there is a significant difference in the risk associated with driving in a city (where there is much greater chance of having an accident) compared to driving in a rural area (where accidents are fewer, albeit with higher speeds involved).

Currently rural customers pay lower premiums that reflect their lower risk. Pricing by broad regions only, that include both rural and urban areas, would be likely to increase the cost of rural motor premiums. This group of customers is already perceived by some as disadvantaged in terms of transportation and access to the job market as public transport may be scarce in rural areas, and rural customers face larger fuel bills owing to greater mileage.

Conversely, urban customers currently pay higher premiums. Pricing by broad regions only would be likely to decrease the cost of urban motor premiums. This might encourage the use of cars within urban areas, and discourage use of public transport, both of which would have negative environmental impact.

More invasive questioning and gathering of pricing information

Some commonly used pricing factors such as gender and age are proxies to other more difficult to obtain items of data, and these proxy factors are used because they have been perceived as easy for the policyholder to provide, and easy to understand and verify.

If such proxy factors can no longer be used, insurers may consider alternative ways to identify the level of risk and hence the correct price to charge. Usage based insurance (UBI), using telematics

devices installed in the vehicle, is a growing market that uses journey data to provide additional information to quantify the risk associated with a policy. Whilst this may appeal to some drivers, others may be less keen on an approach that can track how, where and when they are driving.

In travel insurance, age can in part act as proxy to medical risk. If insurers were no longer able to use age in pricing, perhaps access to medical records could be considered as an alternative, but more invasive, approach.

The use of more detailed and individual information may also extend the time taken to generate a quote. A benefit of simpler proxy information is that it is very quick and often instant decisions can be made.

Changes in marketing or availability of information

When information cannot be used to determine prices for insurance, insurance companies will still know that they are able to make more profits from certain customers compared to other customers. This may mean other tools are used to attract lower risk customers over and above higher risk customers. For example, marketing could be targeted towards lower risk customers and away from higher risk customers (for example advertising in Saga magazine rather than FHM for car insurance), and products could be designed to appeal to lower risk customers rather than higher risk customers (for example including free handbag insurance with car insurance or free travel insurance for accompanying children). This might lead to higher risk customers finding it more difficult to obtain information or suitable products than lower risk customers. An example of this is Irish health insurance which is described in Section 8 below, where companies compete to sell health insurance to young customers in preference to older customers.

Financial impacts

As noted above, at a simple level, the financial impact on premiums of removing pricing factors is that some customers are charged less than they previously were, and others are charged more. It could be argued that the total insured cost is unchanged and that it is simply being shared out differently.

However, we anticipate some consequential impacts on overall premiums.

Higher insurer expenses

One of the advantages of simple pieces of information (for example, age, gender, postcode) is that they are cheap to collect and use. Alternatives such as data from external organisations, telematics data and medical assessments will be more expensive. Despite the associated costs, insurers may still find using this information an attractive, if not necessary, option if the alternative is to price inaccurately and to make losses, especially where competitors are pricing more accurately. In a competitive market, an insurer will tend to prefer to incur additional costs to enable it to identify lower risk customers up to the extent that claims costs are reduced as a result of pricing more accurately. This enables the insurer still to offer lower prices to the lower risk group that has been identified.

In turn this increases the risk facing the insurer who has not been able to identify this lower risk group as the average risk of their customers has increased (as, thinking back to our simple

marketplace example, the lower risk customers will have chosen the cheaper option from the other insurer). Overall, the costs that have to be recovered from the totality of insurance premiums will have gone up – the total claims costs remain the same, but now more money is spent determining which group different customers fall into.

In our simple example, if the colour factor of red or green were not allowed to be used to identify the high and low risk customers, an insurance provider would find it financially attractive to spend up to £49 to be able to identify which customers were, indeed the low risk (green) ones by some other means, and to offer only them insurance at £99. If this were to occur, insurance for the low risk group would be priced at £99, and the high risk at £150 which, overall, is a significantly worse outcome for consumers compared to the £50 for low risk and £150 for high risk.

Insurer expenses are also likely to increase as a result of implementing new regulation and changing the approach to pricing insurance. Some increased expenses may only be temporary during the transition to the new regime, but some may be more permanent.

Any increase in insurer expenses is likely at least in part to be passed onto customers in the form of increased premiums.

Greater pricing uncertainty

The removal of a pricing factor from a market where that factor is already established, such as the removal of gender in some European countries, creates uncertainty in the market. Insurers understand that the loss of pricing accuracy means that they may find themselves insuring more or fewer men or women than they previously insured and they will attempt to adopt strategies that mitigate this effect. Insurers will not know what strategy their competitors will adopt and this may result in protective strategies whereby prices reflect the higher risk policy rather than an average. As a result overall prices may rise, at least in the short term.

Increased purchasing of insurance by high risk customers

If insurers no longer reflect the level of risk within premiums, then premiums for high risk customers are reduced. This will make insurance more affordable for those customers who may start to purchase insurance which they would otherwise have found too costly. Conversely, some lower risk customers who now see their insurance costs rise may see insurance as poor value relative to their low risk and may stop purchasing insurance. Both of these effects mean that, on average, a riskier group of customers is being insured. Over time, this will be apparent through increased numbers of and/or costlier claims. This increase in the total cost of claims will necessarily be passed onto customers through higher overall pricing for all.

Similarly, factors that were previously used in pricing may also have been used as criteria to determine whether to accept or decline a customer. For example, in travel insurance, insurers usually have an upper age limit above which they will not be willing to provide insurance. If this limit is removed, an insurer will accept all customers regardless of age, including the oldest customers who as a group will tend to be the more costly in terms of claims. This will increase the total claims, a further cost which will ultimately be passed on and shared amongst all customers through higher premiums. Higher prices reduce demand for any product and in the case of travel insurance may reduce the demand from the younger, lower risk customers in particular. Reduced demand will tend

to reduce the number of insurers in the market, and potentially this reduced competition could increase prices further.

In extreme cases the ability of the highest risk customers to take the insurance product at the average price may lead to the complete collapse of the market. If life assurance had to be offered to all age groups at the same price, the price might have to be so high to cover the costs of the high risk group that only the old would take it out. The premium for life assurance for younger age groups would represent such poor value for money that this part of the market would be unsustainable. Insurers in turn would need to charge a price that reflected the fact that the majority of those buying insurance were old, resulting in a situation where older policyholders were paying a price similar to that before the removal of age as a pricing factor, and younger people would not buy insurance.

A similar situation could arise with medical expenses insurance and income protection insurance.

Overall affordability

In some circumstances, the price of insurance may be only part of the equation. For example, very high household insurance for houses in high flood risk areas will tend to reduce the price of the house itself. If measures are taken to reduce the cost of insurance, the value (i.e. the price) of the house being insured may increase to compensate. The cost of the house to a new purchaser is determined by the combination of housing costs and insurance, and this combination may in fact be unaffected by measures to control the insurance cost.

Given that restricting the data items that can be used in insurance pricing has consequences, some of which are detrimental, both in terms of social and financial costs, we now consider alternative measures to tackling large differences in the prices paid by different consumers for insurance.

5. Alternatives to restrictions on data items used within insurance pricing

In both the UK motor insurance and home insurance markets, there are some very large differences between the prices paid by the lowest risk and highest risk customers.

On the whole these differences reflect UK insurers' views of the likely claims associated with such customers. In these mass markets, these views are supported by very large volumes of data and sophisticated analysis. This could be considered to be the cost of manufacturing the product (just like any other product), but with the insurance product being less tangible.

Measures that seek to restrict the data items that can be used in insurance pricing are often motivated by the desire to reduce the extent to which one customer is charged more than another customer, and by concerns about affordability. However, these measures may have the consequences, some of which are detrimental, as outlined in the previous section.

An alternative to restricting the data items that can be used in insurance pricing is to tackle directly the causes of the very high prices, by tackling in turn the issues that cause high amounts of claims. This avoids the consequences associated with placing restrictions on the data items that can be used.

There are several potential alternatives to restrictions on data items, which broadly fall into three categories:

A. *Reduce claim costs/underlying risk*

The need for insurers to charge very different prices to different customers could instead be reduced by tackling the underlying causes of the claims that cause some policyholders to be quoted very high prices by insurers.

If some young drivers are associated with claims that are costly both in terms of financial cost and human cost, should society instead tackle the question of whether these drivers should be allowed to drive at this age? Do we have a right to drive a car, regardless of the risks?

Similarly, if there are financial and human costs of flooding to homes, should society re-examine its attitudes to building on flood plains?

Approaches that could be taken include:

Motor Insurance

- Measures intended to tackle the high cost of claims caused by young drivers, including improved driver training, increasing the minimum driving age, restrictions on the engine size or type of vehicle, restrictions on the time of day or night at which young drivers may use their cars and restrictions on the number of passengers they may carry. These could be implemented through graduated licensing, which is designed to provide driving experience to new drivers gradually over time and at relatively low risk. The scope of the licence is increased with further testing.
- Increased motor claims costs associated with the very oldest drivers could be tackled by introducing regular eye tests, or re-testing of driving ability.
- Improved driving tests or “continuous” testing or education for all drivers.
- Safer vehicles or driving conditions, for example improved enforcement of speed restrictions (possibly by a network of vehicle registration recognition cameras), adding speed limiters in new/all vehicles, improved car safety (such as more airbags, side protection, autonomous emergency braking and hazard perception devices), improved street lighting, more cycle paths and greater provision of public transport.
- Usage based insurance, using telematics devices installed in the vehicle, can contribute to reduced overall costs, if drivers moderate their driving behaviour, as a result of the additional information this system provides, or simply in an attempt to reduce their premium.
- Limiting the maximum claimable under a motor liability claim. In the UK, this is currently unlimited, whereas limits apply in some territories.
- Limiting the amounts payable for claims that are difficult to prove, for example soft tissue injuries such as whiplash. Alternatively, payments could be limited in terms of what the payments are for. In the case of whiplash, payments could be limited to treatment costs, rather than cash sums for general damages.

- Increasing the level of evidence required for claims that are difficult to prove, such as whiplash.

Home Insurance

- The cost of flood claims could be tackled by a number of measures including the building of flood defences, improving waste and drainage systems, better flood forecasting and preparations in the event of a flood, and the restriction of development on flood plains.
- Smart devices in the home that, for example, turn the water supply off if a water pipe bursts, or maintain a minimum room temperature above freezing whilst a home is unoccupied.

B. Government or central insurance body pays for the highest risks

Rather than insurance companies or their policyholders directly bearing the costs of the riskiest customers, an alternative is to cover the costs through a government body or a central insurance body. This is similar to the Motor Insurers Bureau (MIB), which covers the cost of many claims caused by uninsured drivers in the UK.

This approach does not have the advantage of tackling the underlying causes of the high costs, but, depending on its implementation, is an alternative mechanism for redistributing costs across society as a whole. In the case of the MIB, the costs are ultimately borne by policyholders through a levy on insurers which is passed on to policyholders in their premium.

Similarly, the Association of British Insurers (ABI) has recently put forward proposals that would place a limit on the premium that policyholders in high flood risk areas would pay for their household insurance. Above a threshold, costs would be borne by a fund that would be paid for by an industry-wide levy, which again would be paid for through the premiums of all policyholders.

C. Consumer information and education

As an alternative to placing controls on premiums, regulators could instead focus on accessibility to insurance by facilitating or compelling a signposting process so that all consumers can access existing insurance services that meet their needs. In the UK, the ABI, the British Insurance Brokers' Association (BIBA) and the Government have an agreement under which insurers or insurance brokers who are unable to offer motor or travel insurance to older consumers, on the grounds of their age, will automatically refer them to an alternative provider who is able to provide cover, or to a signposting service which will in turn provide details of where insurance cover is available.

In assessing the merit of these alternatives to restrictions, both the costs and the broader benefits should be considered. The benefits of measures that go some way to tackling the underlying causes of claims are likely to be both financial and human.

We now consider examples of insurance markets which help to illustrate some of the issues discussed in earlier sections.

6. Example - Travel Insurance (UK)

Claims under UK travel insurance policies fall into three main categories:

- Loss of, or damage to, the customer's property
- Cancellation or curtailment of the customer's holiday, and
- Expenses incurred for medical treatment and, if required, repatriation to the UK.

The majority of claim expenditure results from medical costs, and premiums therefore take into account the medical risks faced by travellers. Owing to the greater medical risks that they face, older travellers currently pay significantly higher premiums than younger travellers.

The UK travel insurance market is one such market where age banded pricing and age limits are commonplace. With increasing age, the number of travellers decreases, and therefore data to assist insurers in pricing travel insurance becomes more scarce. The lack of data increases the uncertainty that the insurer faces in determining the expected claim amount, which causes some insurers to decline to quote for older customers. The resulting reduced competition, coupled with increasing medical costs, can lead to a sudden increase in premiums at a seemingly arbitrary age. The following graph shows the availability and price of an annual worldwide travel insurance policy for a range of ages obtained via a price comparison site.

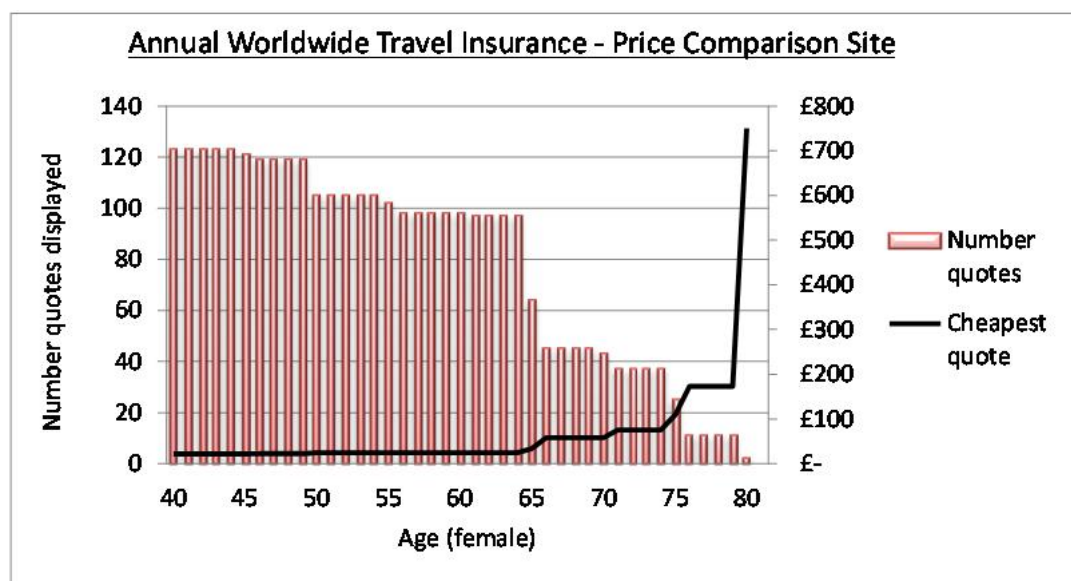


Figure 3: Quotes for travel insurance on a price comparison site January 2012

This shows that up to age 65, there is a great deal of competition and prices remain fairly stable (prices remain the same for large bands of ages). As age increases above 64, the price increases and choice of products decreases. The increase in cost as age increases is likely to be a combination of the increased risk at these ages as well as the lower level of competitive pressure.

By the time age 80 is reached, there is hardly any choice and the premium quoted is more than four times the level quoted for age 79.

As data becomes scarce, risk and uncertainty increases and it is common for providers to limit cover.

It should be noted that the graph is based on a price comparison site and as such is likely to be predominantly mainstream products. There will be specialist providers in the market who provide cover and assess risk for individual cases.

If age were to be removed from the pricing of travel insurance, then insurers would need to charge both older and younger customers a premium that was greater than the premium previously being charged to the younger customers, but less than that previously charged to older customers. This is to ensure that the total premiums collected were still sufficient to cover the claims resulting from all policyholders. In this scenario, it may still be necessary for some insurers to decline to quote for customers beyond a certain age limit due to the lack of available data to accurately assess the necessary overall price.

An alternative to the removal of age from the pricing of travel insurance would be to more gradually increase the price with each year of age. As in the case of removal of age pricing, some customers would receive a premium decrease, whilst others would experience an increase in premium in order that the total premium charged across all customers would remain unchanged. It is likely that some customers would consider such a change fair, however those experiencing price increases might consider it unfair.

7. Example – Removal of restrictions in Motor Insurance pricing (India)

Prior to 2007, motor insurance pricing in India was based on a tariff, a set of prices which was determined by the authorities, with little flexibility for insurance companies to deviate from the tariff price. In 2008, this requirement was largely removed, and insurers were able to set prices according to their own view of the risk, with little reference to the tariff price. Insurers are now also able to vary the cover that is provided, with additions to a minimum cover level being allowed.

This is therefore an example of a market which is removing, rather than increasing, the restrictions on the data items on which insurance pricing may be based.

Since the removal of pricing restrictions, profitability in the motor insurance market has fallen, indicating that consumers are, on average, getting a better deal. A drop in prices has resulted in the percentage of premiums collected that are paid out on claims arising from approximately 85% for the Indian motor industry as a whole in 2006-7, to approximately 103% in 2010-11 (based on information published by the Indian regulator, the Insurance Regulatory and Development Authority). There is an increase in the number of insurance companies offering cover, indicating more competition. There is a wider range of product options available, suggesting that consumers also have more choice.

8. Example – Private Healthcare (Ireland)

The Irish health insurance market is an example of a market which has attempted to introduce an 'everyone pays the same' approach to pricing. Private health insurers in Ireland must comply with three requirements:

- Open enrolment – Health insurers must accept anyone who wishes to join, subject to any applicable waiting periods before cover takes effect, regardless of age, sex or health status.

- Lifetime cover – If a policyholder continues to pay their premiums, the insurer cannot refuse to continue to provide insurance.
- Community rating – A health insurer must charge the same price for a given level of service, regardless of age, gender or health status. So all adults pay the same amount for the same benefits.

The Health Insurance Authority (HIA), with which all Irish health insurers must be registered, operates a Risk Equalisation Scheme. Risk equalisation is a process that aims to remove the differences in insurance costs that arise owing to the age, gender or health status of the policyholders.

Despite this scheme, competition and marketing remains focused on younger customers, as indicated by the most recent HIA statistics. VHI Healthcare, which until 1994 was the predominant health insurer in the Irish market, has seen its market share fall, mainly in the younger age groups. In contrast, more recent entrants to the market tend to have significant market shares in the younger age groups, but only relatively small shares of the over 80s market. The new entrants are able therefore to offer lower prices to their group of policyholders, who tend to be younger.

9. Consumer attitudes to fairness

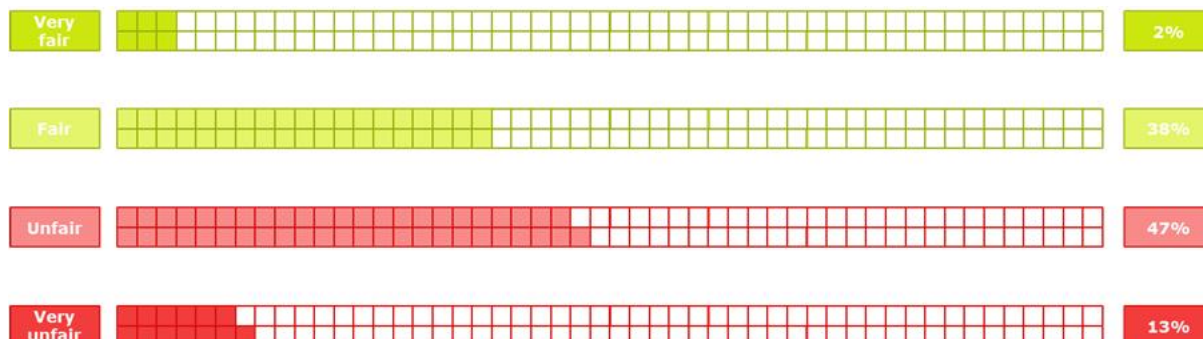
This section outlines the results of UK research carried out by Consumer Intelligence during June 2012. The consumer survey was designed in collaboration with the working party to explore consumer opinion and understanding in respect of:

- Whether the current approaches to car insurance pricing are fair
- How car insurance is priced
- How car insurance should be priced
- What makes up the claims costs associated with car insurance
- The use of specific pricing factors in certain types of insurance

The results of the research are summarised below. Where interesting, we also comment separately on the results for men and women, and by three age groups (30 and under, 31 to 60, 61 and over).

Question 1: Do you think the way that car insurance premiums are calculated is fair?

This question served as an introduction to the survey. The responses are shown in the chart below. Perhaps unsurprisingly, the majority of consumers (60%) believe the way that car insurance is priced is either unfair or extremely unfair.



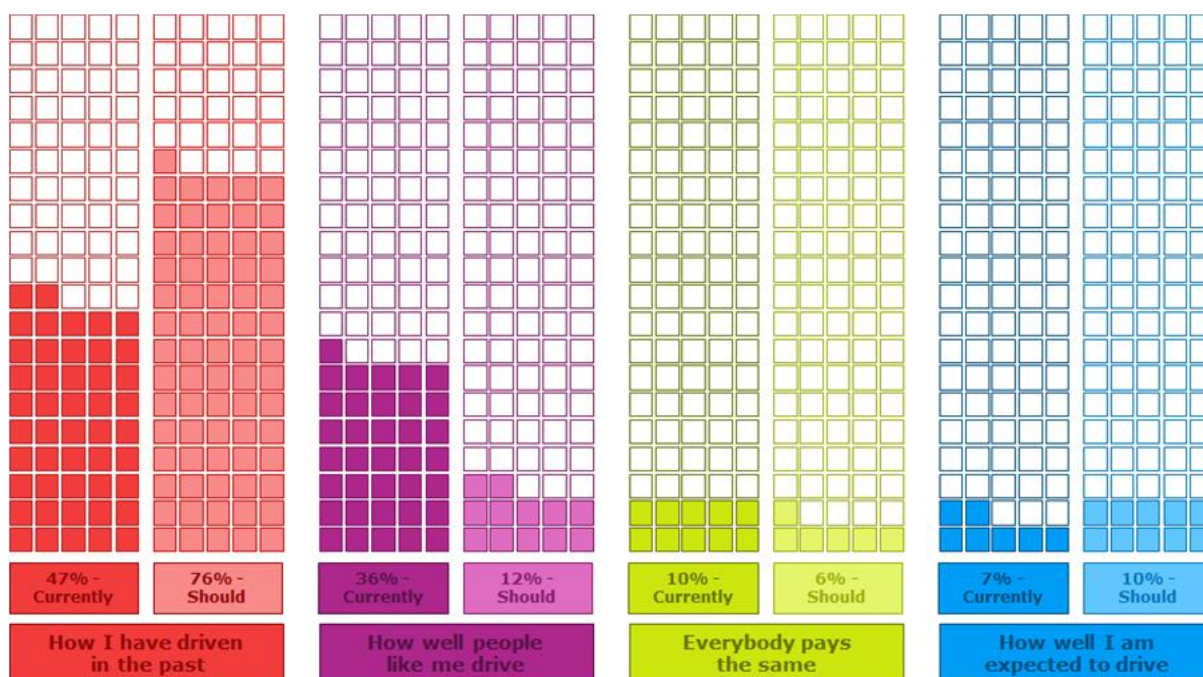
Questions 2 and 3 explored how well consumers understand how car insurance tends to be priced in the UK, and compared this to how consumers think car insurance should be priced.

Question 2: How do insurance companies currently work out how much you personally pay for your car insurance premium?

The responses were largely split between 'How people like me drive' and 'How I have driven in the past'. That 83% of respondents chose one of these answers indicates a relatively good understanding at a high level.

Question 3: How should insurance companies work out how much you personally pay for your car insurance premium?

An overwhelming 76% responded 'How well I have driven in the past' indicating that, amongst those who responded to this survey, consumers feel that the price they pay for car insurance should be individually calculated – the right-hand of our two extremes from section 3 of our paper. This response could also be interpreted as a shunning of the use of proxy factors that pigeon-hole individuals, as the overall response has moved away from 'How people like me drive' in the previous question to 'How well I have driven in the past'.



Question 4: So would you be happy to have a box fitted to your car that tracked your driving patterns and used the information to calculate your insurance premiums?

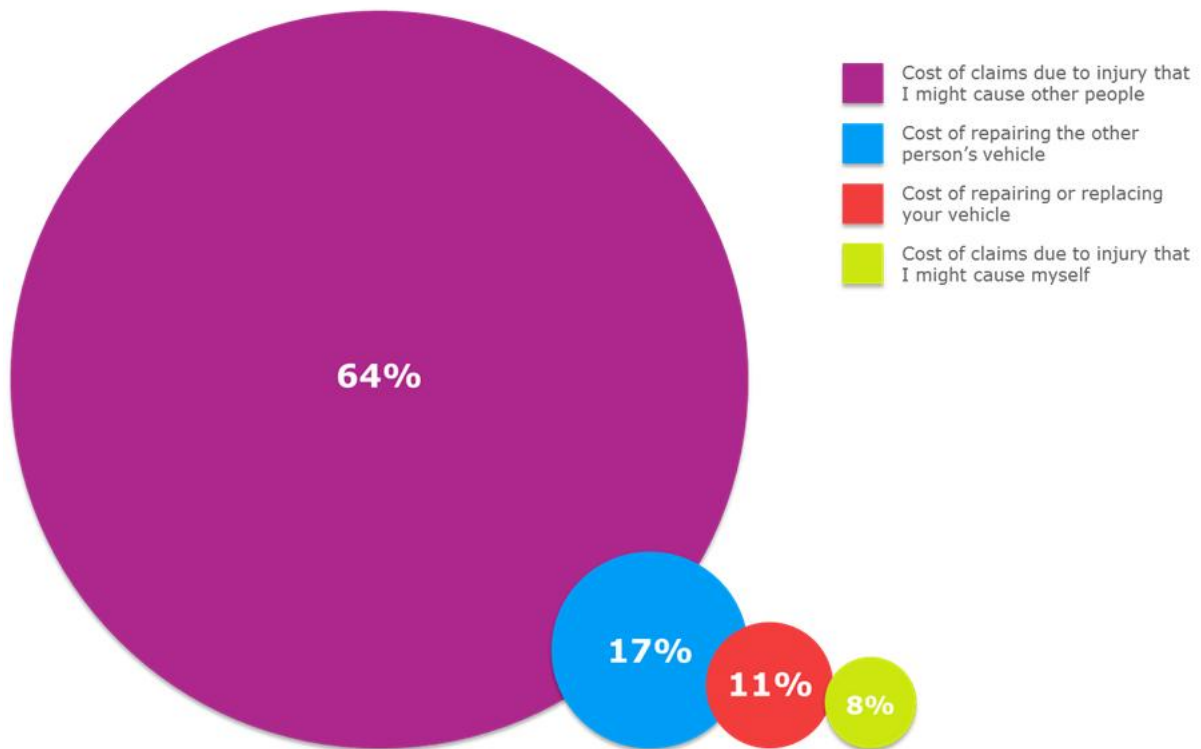
This question was added to the survey at a later stage, when it became apparent that a majority of respondents favoured a price that depended on 'How well I have driven in the past'. It was asked only of those who responded 'How well I have driven in the past'.

Seventy percent of respondents who were asked this question said 'Yes'. This contrasts with other surveys that suggest relatively little appetite for telematics black boxes. What this response may suggest is that, when asked to consider first how they want their insurance premium to be assessed, consumers appreciate that insurance companies need a means of determining how well a policyholder has driven in the past.

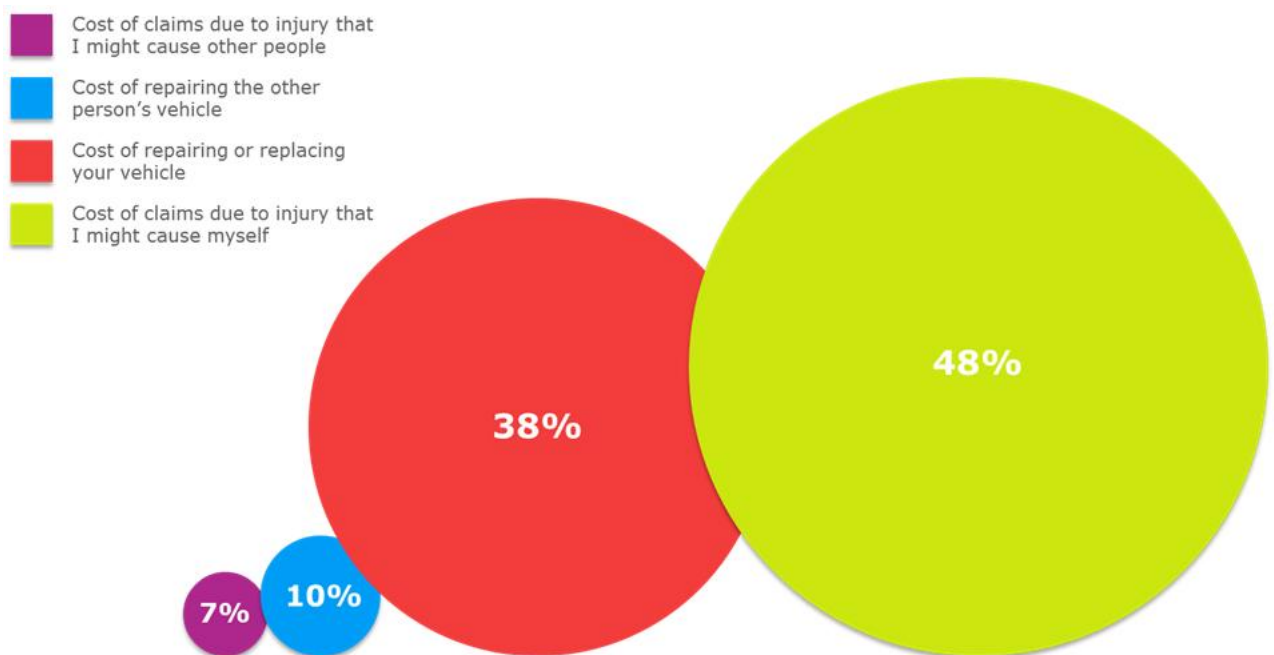
Questions 5 to 8 were designed to explore how well consumers understand the extent to which car insurance covers liability for third parties' costs, as opposed to their own costs such as damage to their own car (or injury to themselves, which has minimal cover within their own policy).

The responses to questions 5 to 7 demonstrate that the extent to which car insurance relates to the costs of others is relatively well understood by UK consumers, potentially as a result of the media attention to the causes of increasing insurance prices.

Question 5: What is the most expensive part of a claim?

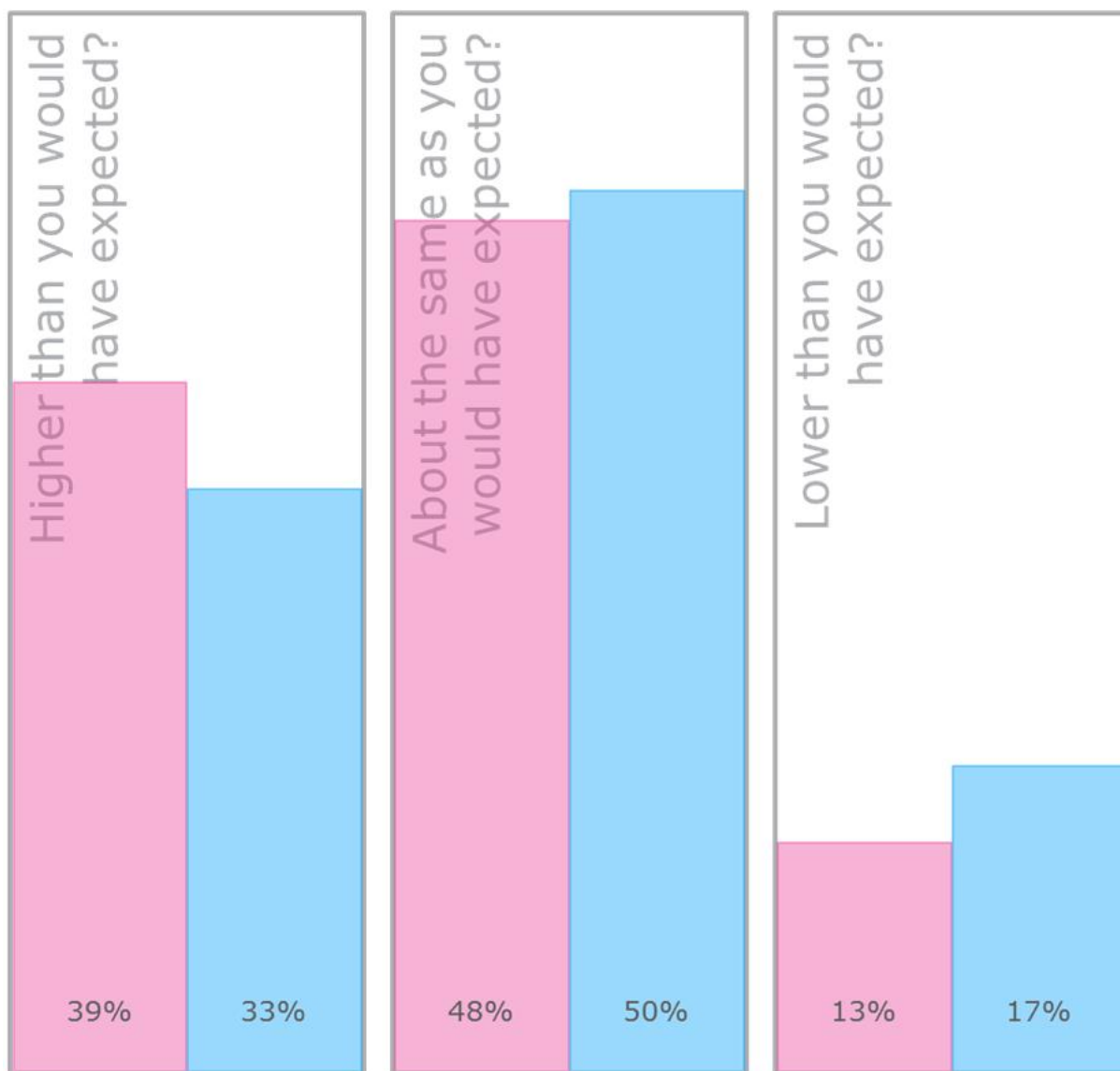


Question 6: And the least expensive part of the claim?



Question 7: 51% of the money is for the cost of claims due to injury that I might cause to other people. Do you think this figure of 51% is . . .

There are some small differences by gender, suggesting that women, who are less likely to cause injuries to others, are more surprised by the extent to which this accounts for the claims costs. There was very little difference by age.



Question 8: How fair do you think it is that this figure of 51% is reflected in the premium you are charged for car insurance?

Despite the majority of respondents understanding that the cost of injuries caused by the policyholder to others is the largest part of the insurance claims cost, 60% nevertheless felt that it was unfair or extremely unfair that this was reflected in the premium. This suggests (although does not firmly establish) that consumers may be more resistant to pricing factors that are important in respect of third party costs as opposed to their own costs.



Questions 9 to 11 were asked as a series of polls, independent of the earlier survey questions.

Question 9: Do you think the price you pay for insurance should be linked to the area you live in?

This question was also asked in the context of car insurance. The vast majority of respondents felt that where they lived should have some effect on the price of their car insurance. However, a significant minority felt that it should only affect the element of the price that relates to insurance against theft of the vehicle.



These results differ when considered separately by gender. Women were less inclined than men to think that their price should be linked to where they live, and those that thought it should were more likely to think this link should only apply to the element related to the risk of theft.

There were some bigger differences by age, with those over the age of 60 much more willing to accept that price should be linked to where they live, for all aspects of the risk:



Question 10: Should people pay the same for Flood Insurance?

This poll was asked in two forms:

- A. Everyone should pay the same for flood insurance vs. People who do not live in a flood area should pay less, and,
- B. Everyone should pay the same for flood insurance vs. People who live in a flood area should pay more.

In both cases, respondents (89%) were decisively of the view that how much people should pay for flood insurance should depend on whether they live in a flood area. These results were also independent of gender and age.

Question 11: Older people's Travel Claims are higher. Should they pay more?

In contrast, when asked whether the price of travel insurance should depend on the age of the traveller, 61% felt that it should not. The results did not materially depend on the age of the respondent. This suggests that consumers are willing to tolerate cross-subsidies between younger and older travellers, with younger travellers subsidising the costs of older travellers. More women (64%) felt that price should not depend on age than men (55%).

Consumer research by Consumer Intelligence. Sample 1,200 UK Motor Insurance Purchasers. June 2012 © Consumer Intelligence.

10. Conclusion

“Fairness” is subjective, and it is possible that one person may view both sides of the same argument to be in some sense “fair”. Whether someone sees a new approach as fair depends on the impact on themselves, their loved ones, and those that they represent.

Within insurance pricing there are two extremes, namely an equal price for all regardless of their likely cost of claims, and a specific price for each consumer in relation to the likely cost of claims in the period of insurance cover. In between these two ends of the spectrum, there are many alternatives of which the most common approach of grouping consumers using factors such as age, gender, address, and so on, is one.

Placing restrictions on what data items can be used in insurance pricing has consequences. Some are financial, and tend to drive up the costs of insurance to the consumer. Others are societal, and can be either positive or detrimental. Many consequences will be unintended and possibly unanticipated.

Measures that seek to restrict the data items that can be used in insurance pricing are often a result of concerns about affordability, where prices are very high. An alternative to restricting the data items that can be used in insurance pricing is to tackle directly the causes of the very high prices, by tackling in turn the issues that lead to high amounts of claims. This avoids the consequences associated with placing restrictions on the data items that can be used.

It is our conclusion that it is for society and policymakers to make informed decisions as to what is fair in insurance pricing, with an understanding of all the consequences, and not only the outcomes that are being sought.