Not everything that counts gets counted
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An eye for figures

I would like to draw attention to three statistical aspects to be propelled forward by applying insurance statistics. The first involves the expansion of the scope of insurance data, the second, the exhaustive treatment of existing statistical data on insurance and the third, the identification of desired new information.

Van Lelyveld\(^2\) notes that ‘Institutions have a wealth of data at their disposal but their practical use is more apparent than real’. When the introduction of a new pension policy became necessary in the United Kingdom, Lord Turner\(^3\) commented that there was virtually no accessible information for monitoring an evidence-based pension policy. The information was largely available but not in a usable form; not at accessible institutions and it could not be combined with information from other sources, etc. Under changing circumstances, the belief that there is sufficient information available and adequately used, leads to under-usage of the available data, to a lack of new data and to undirected and incomplete analysis. Furthermore, the shift from public to private responsibilities in society and the fast and global media coverage of arising new risks, demands the different use of insurance-related information, both within a single company and between companies. The development towards a European or global market coupled with cross-border consolidations requires an overview of markets that are difficult to compare. Such an overview is often absent or only present in a fragmented form.

The application of risk statistics

The ‘insurance risk’ is the risk of an incident in the future against which you can take out insurance. Estimating the risk of claims connected to such an incident and collecting the risks is what insurance statistics do. The more general the type of incident and the higher the incidence of this type of incident is in the past, the greater the probability that the incident will occur in the future. The risk policy of a single insurer is however definitely not a random selection of all insured risks. The risk policy of multiple insurers together, however is.

That is why there exist risk statistics at sector level. Based on a large random sample of premium and claims data from the Dutch insurance industry, the risk statistics compiled by the Dutch CVS [Centre of Insurance Statistics and Research] provide insight into the claims risk and the average amount of the claims made by groups at risk. This is illustrated in Diagram 1 where the risk of third-party liability claims

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\(^1\) Abridged version of the inaugural address given on Thursday 7 June 2007 on the acceptance of the position of Professor by special appointment of Applied Insurance Statistics at the University of Amsterdam (chair endowed by the Stichting Verzekeringswetenschap).


for passenger vehicles (vertically) is shown against insurers (horizontally) based on the random sample of the CVS risk statistic for passenger vehicles. Each dot represents an insurance underwriting company. A large dot is a large insurer, a small dot, a small insurer. These statistics show that small and large insurers deviate from the average for the Netherlands. The reason for the deviation is that the portfolios of individual insurers are not random samples of the insured population because each portfolio reflects the marketing and selection policy of the individual insurer. A large portfolio is no guarantee for having a representative random sample of the insured population.

Diagram 1.
Risk of third-party liability claims for passenger vehicles per insurer as percentage of all insured vehicles

Sometimes, individual risk statistics from a single insurer do not permit the estimation of the insurance risk. The law allows for the making of one statistical model of the costs of the cover for a particular risk for all insurers in such cases. In The Netherlands the CVS estimates this insurance risk. Market-wide sharing of risk information has a regulatory effect on the market, insuring improves and it becomes more difficult to participate in irresponsible price dumping.

Risk statistics also play a role in supervision. The Nederlandsche Bank (DNB) supervises the insurance sector and requires that all insurers have access to market-wide risk factors so that more adequate technical reserves are made. And finally there are also emerging risks regarding which we are as yet unfamiliar with the claims risk. Another need for market wide statistics. The Forum of Chief Risk Officers of the largest European banks and insurers added recently the risks of flooding and obesity. The (un)insurability of flood risk is topical. No less important is the obesity risk of which there is no quantitative analysis of the insurance aspects of excess weight yet.

Mirror, mirror, on the wall …

The comparison of insurers in figures is of social and financial-economic importance for all kinds of parties. The supervisor compares insurers in terms of their financial health. Investors and reinsurers desire security for which they are accepting the risks, and rating agencies, among others, rate the degree of security. All such comparisons are based on statistics. Maintaining insurance statistics that can be used to compare insurers with one another is a great collective effort for the sector and one that requires a sustainable vision. It is the task of insurance statistics to put forward well-founded arguments to continue to substantiate this sustainability.

The measurement of the costs of legislation and regulation for society as a whole, the business community and the insurance industry in particular, is a controversial and supposedly expensive issue that is currently receiving attention in political circles, both at home and in the EU. But what are we actually talking about? €500 million? €10 billion? The traditional assessment of these costs does little justice to differences among insurers and therefore gives no insight into the total compliance burden and the amount of the burden is systematically underestimated by a factor of three to ten. On the basis of statistics, doing justice to the existing diversity in company operations, sensitivity and business models of the various insurers, it is possible to measure the compliance burden by using a panel of companies.

4 Cf. for example, the cabinet’s position on the final report of the Commissie Tegemoetkoming bij Rampen en Calamiteiten [Disaster Compensation Committee], 5 July 2006.
CVS developed such an instrument: the Insurers Compliance Burden Measurement Instrument (MINVER). A random sample of insurance companies delivers data (using a standardised questionnaire) on various activities that must be undertaken pursuant to prevailing laws (historic) or new legislation (prognostic). In 2002, the Dutch government estimated the annual administrative burden of legislation and regulations for the financial sector at about one billion Euros. The insurance segment should be accountable for around €265 million. When measured by MINVER the estimated total compliance burden for the Dutch insurance industry equals €800 million on a yearly basis.

Not everything that counts gets counted

Cross-border comparisons of insurers and insurance products are therefore difficult and information is frequently unavailable. For instance, the financing of old-age pensions in Europe is under pressure. State pensions cannot cope with this demographic pressure and begin to display gaps. The drivers behind this development are the decline in the number of children, the increase in life expectancy and migration. Ageing takes place slowly – the EC expects that public expenditure will peak in 2044 – selectively – northern Europe is ageing earlier than southern Europe – and it is not uniform: in the Netherlands ageing is not yet as severe as in neighbouring countries.

All these differences make it difficult to gain insight into the status of European pensions. There are no sufficient data available either nationally or internationally to draw up and monitor an evidence-based pension policy. To arrive at a representative picture, not only the public sector should be examined, but also the private sector. The OECD too has difficulty including the figures of the insurance sector in its Global Pensions Statistics Project.

The Working Group on Pension Statistics of the CEA (European Insurance and Reinsurance Federation) picked up this challenge. In 2007, for the first time in the European pension world, an estimate was made of the scope of the entire European pensions market, public and private sectors together. The CEA analysis is based on statements by insurers from 17 countries and 96% of the private premium market on the one hand, and is combined with national, public pension figures on the other hand. The figures in table 1 show that the share of private insurers in the market would make them a substantial party in the European pension debate. The CEA figures support the idea that northern European countries will be the first to be hit by ageing and the decline in under-35 year olds. This means that job-related pensions and individual annuities will have to fill the gap left behind by the first pillar if pensions are to remain at the same level. At the same time, the size of the private share in provisions for pensions is growing along this gradient so that the role of insurers, who already supply 60% such schemes, will unquestionably increase further in coming years. The role of the private sector in provisions for pensions in Europe is important and will become more important in the future, while insight into this development based on figures is virtually unavailable. If the private sector desires credibility and wishes to bear its responsibility properly, then more monitoring and better figures are needed. This underscores the necessity for a combined European approach to insurance statistics. A European centre for insurance statistics could be a solution.

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6 Available in Dutch, English and German.
7 The assumption is that the compliance burden is uniformly distributed across sectors within financial services provision.
13 www.oecd.org/document/46/0,2340,en_2649_201185_36091822_1_1_1_1,00.html.
14 CEA (2007), The role of insurance in the provision of Pension Revenue, Brussels.
Table 1. Estimated premium turnover of insurers and non-insurers in Europe, broken down by the pension pillars

<table>
<thead>
<tr>
<th></th>
<th>1st pillar</th>
<th>2nd pillar</th>
<th>3rd pillar</th>
<th>total</th>
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</thead>
<tbody>
<tr>
<td>Non-insurers</td>
<td>833</td>
<td>120</td>
<td>14</td>
<td>967</td>
</tr>
<tr>
<td>Insurers</td>
<td>8</td>
<td>104</td>
<td>139</td>
<td>251</td>
</tr>
<tr>
<td>Total</td>
<td>844</td>
<td>225</td>
<td>152</td>
<td>1,218</td>
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</tbody>
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In percentages: 69% 18.5% 12.5% 100%

Source: CEA 2007

Consumers prefer security to price

Applied insurance statistics are also the quantitative tracking and analysis of the way the insurance industry is perceived. What experience consumers in their dealings with insurers and their products and how are insurers rated by consumers? Some conditions in dealing with insurance products persist. First, insurance reminds consumers of something unpleasant like damage, illness or death. Second, there is always the confrontation with the complexity of insurance contracts. And finally, the actuarial mindset of insurers has an alienating effect on consumers and in dealing with millions of policies on a daily basis, administrative errors occur. In order to understand the behaviour of consumers under these conditions, let us adopt the following simple reasoning: consumers have the obligation or feel obliged to take out insurance and they are prepared to pay a price for it, if they get value for money. And consumers suffer if it works out differently. Applied insurance statistics should be able to substantiate this interpretation and thus decide what aspects of this can be termed evidence based. The CVS has done so for The Netherlands. All the conclusions that follow below are, unless stated otherwise, based on empirical material from the 2004, 2005, 2006 and 2007 volumes of the CVS-Consumentenmonitor\(^{15}\) [CVS Consumer Monitor].

First, the obligation or need to take out insurance. Three-quarters of consumers believe that being insured to a reasonable degree is important in order to manage the costs of daily life. There exists a significant correlation between the need for insurance and the degree of market-penetration.\(^{16}\) Consumers know which insurances are truly necessary and, in addition, they have the tendency to insure themselves more than is strictly necessary because ‘you never know’.

The second element in our reasoning is the willingness to pay a reasonable price for an insurance. This is, among other things, related to the question: what is reasonable and what should the insurer earn? Consumers allow insurers considerably more per euro on a policy than what they actually do make\(^{17}\), indicating by proxy a certain willingness to pay. This brings us to the third element of the reasoning. Do consumers get value for money? The value lies in the feeling of security that is offered. In other words: only when the feeling of security drops, price does become an obstacle. The feeling of security that insurers provide is by far the strongest factor in determining the amount of appreciation they receive. The multivariate mat in Diagram 2 links the appreciation of insurers to the security that they offer and the transparency or understandability of their products. Each consumer judgement score is located on the 3D-mat. Appreciation goes up as the feeling of security increases. When appreciation is high and the feeling of security is great, the understandability of the products no longer plays a role. However, when less security is offered, it is understandability rather than price that matters.

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\(^{16}\) Correlation coefficient of 0.88.

\(^{17}\) For many years now, according to the consumer insurers could actually have earned considerably more on every euro of premium turnover than they in fact earn (in 2006 in NL: 18 eurocents versus 10 eurocents).
So consumers receive value for money when they get security. That is what they want. Good experiences with the basic core of insurance: claims handling, cover, service and advice provision, contribute the most to this feeling of security (83%).

The fourth step in our argument is the response to the question: when do insurers fail to meet the expectations of consumers? The greatest risk of disappointing a customer is when the consumer loses trust in the insurer. What hurts is the loss of security caused by the insurer not performing basic tasks, like claims handling (33%), cover, service (60%) and advice provision (12%). These are also the high-risk activities of insurers for loosing their reputation. See Stewart.18

Why do they dislike us?

The reputation risk is extremely topical in terms of risk management. Reputation risk is not a risk that insurers insure against but rather an external risk that they run themselves. Reputation risk is crucial for insurers and they are collectively depressed about it, according to many sources. See Six19, Skipper20, Stewart21 and Schanz.22 Is the world really so depressing for insurers? The strange thing is that it’s actually not that bad. Nationally and internationally, insurers are appreciated by the public with popularity ratings between 55 and 70%. Some politicians would kill for such percentages! The reality is that the public does not detest insurers. The insurance sector is regarded with a sympathetic neutrality, or even positively, more than with disapproval and contempt.

Feeling about Dutch insurers NL (CVS monitor, 2007)

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<tr>
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<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
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<tbody>
<tr>
<td>Positive</td>
<td>80</td>
<td>74</td>
<td>63</td>
<td>64</td>
</tr>
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Feeling about US non-life insurers USA
(Insurance Information Institute, Insurance Pulse, 2006 & Stewart, 2006)

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<th></th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
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<tbody>
<tr>
<td>Positive</td>
<td>55</td>
<td>59</td>
<td>57</td>
<td>55</td>
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Media researchers report that an average of 20% of the media coverage is positive.23 The prejudices of insurers therefore are on coverage in the media, and the consequences of this, according to Stewart, are

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confusing and serious. The initial reaction of the insurance sector to coverage in the media is virtually always to remain silent. But at the same time, the tendency ‘to do something’ cannot be suppressed and leads to desperate, conspicuous PR campaigns. This mixture of inertia and overreaction is not only confusing for public opinion but is also grist to the media mill. If we link this attitude to the times at which the risk of reputational damage is the greatest, namely moments of extreme media attention and publicity surrounding disasters and ‘incidents’, moments at which firmness, swiftness and clarity are desired, then the seriousness and the impact of the reaction also become clear.

Reputation is established by true behaviour over a long period of time and is tied to actual activities – contrary to image that is a confounding not-associated projection from outside. Reputation is sensitive to public opinion and therefore media-sensitive. Reputation and image are not independent of one another but there is a difference between what the media say and what the consumer feels.

Reputation damage is measurable as a loss of customers, a loss of key personnel and rising costs because the trust of staff, investors, business partners, legislatures, supervisory bodies and NGOs is lost. Good reputation management generates transparency, creates trust and reduces supervision.24

According to Schanz25, little research is being conducted into reputation and its management. Out of 86 quantitative reputation studies conducted between 1958 and 2004 reported by Berens and Van Riel (2004)26, only five involved the insurance industry.

The insurance literature argues for tangible research results in the field of the monitoring of the reputations of insurers and of demonstrating the usefulness of reputational management by insurers.

The roots of reputation are the appreciation of stakeholders of the insurer’s behaviour and what insurers do to improve that behaviour. A sector-specific reputation index is to be based on that. The need for research to find a workable definition and to establish the measurability of the efficiency of reputational management goes hand in hand with this. I consider the pursuit of both these aims to be part of applied insurance statistics at the sector level.

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