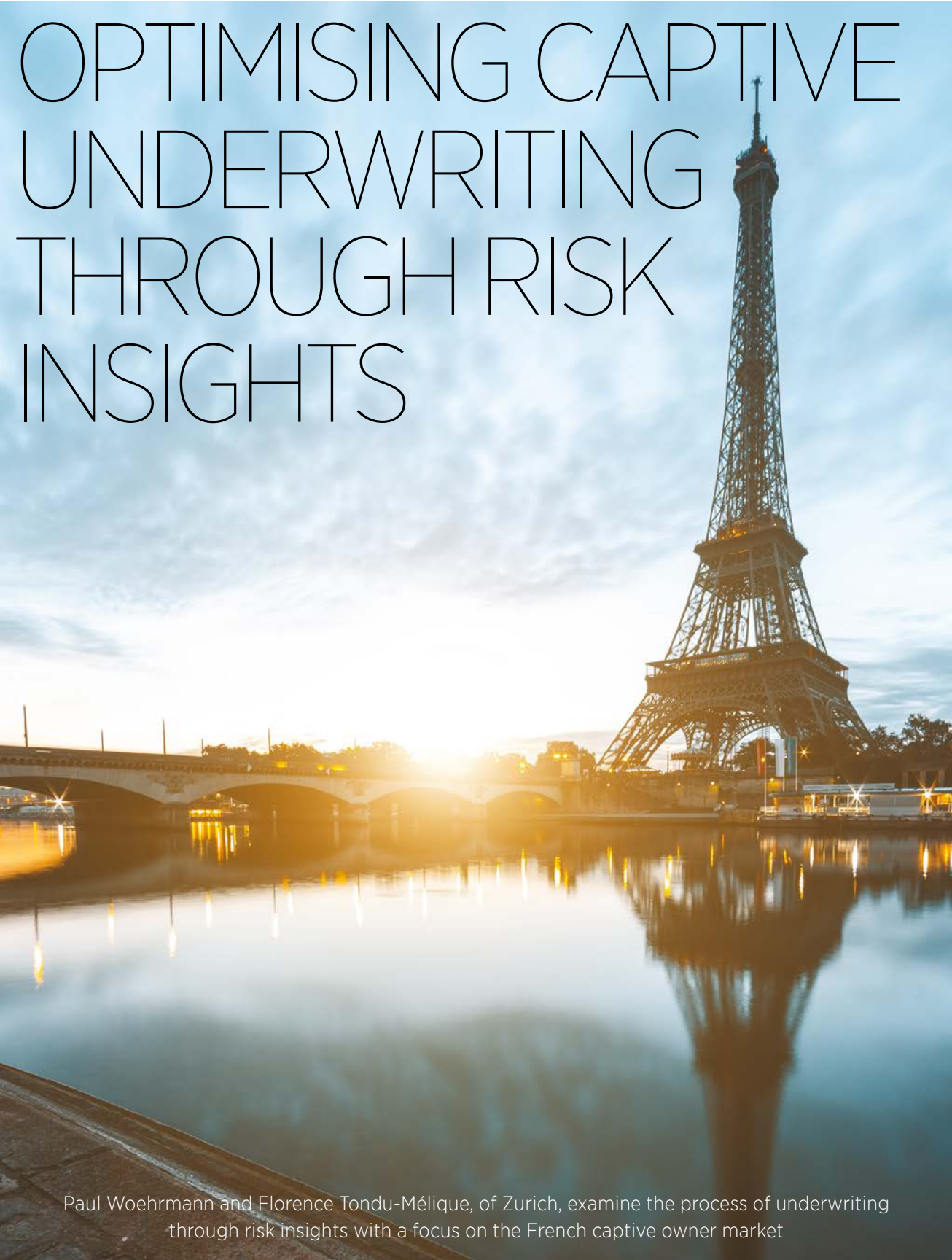


OPTIMISING CAPTIVE UNDERWRITING THROUGH RISK INSIGHTS



Paul Woehrmann and Florence Tondou-Mélique, of Zurich, examine the process of underwriting through risk insights with a focus on the French captive owner market

The macro perspective shows us that the French captive owner market comprises more than 50 ultimate captive parents whose captives are mostly located in Luxembourg and Dublin. Taking everything into account, including life- and non-life programmes and the size of French captive owners, the resulting Gross Written Premium (GWP) is substantial. Independent of the current market cycle, captive owners need to understand whether or not their captive net retention reflects the optimal level. The following article provides guidance on how to achieve this goal.

The value of risk insights for captive owners

The evaluation of the optimal retention level is required in order to efficiently allocate the company's scarce capital to the most adequate risk carriers and to minimise the total cost of risk. As the below picture (see figure 1) clearly demonstrates, this can be determined by combining the risk transfer cost and opportunity cost curve. The optimum level varies in each case depending on the underlying calculation elements for each curve, meaning that every company has an individual exposure and claims profile as well as a specific capital cost structure. Investment in risk management therefore involves qualitative and quantitative considerations, which are also relevant to the issue of how much internal capital should be allocated to risk financing. The amount to be made available is on one hand determined by the level of the company's opportunity costs, as compared to an investment in the company's core business areas, and on the other by the expected

Florence Tondy-Mélèque



Florence Tondy-Mélèque is chief executive officer of Zurich France. She is a well-known and respected professional in the industry with a broad range of experience, people leadership, and a proven track record. Prior to joining Zurich in June 2017, she was chief operating officer at Hiscox Europe. Tondy-Mélèque holds a Master of Science degree from HEC Paris and a Master in Business Administration from Harvard.

Dr Paul Woehrmann



Dr Paul Woehrmann is head of captive services Europe, Middle-East, Africa, Asia Pacific and Latin America, was ranked the third most influential person in the industry by *Captive Review* in 2016 and 2017. He has been with Zurich for more than 25 years and leads a team of experts which is located in several countries across the world in order to meet non-life and life requests from captive owners. Woehrmann studied economics at the universities of Hamburg, Cologne and Fribourg (Switzerland).

return on equity in the (re)insurance sector, which prices its return expectations into the (re)insurance premium payable. This approach is directed towards traditionally insurable risks.

Two distinct approaches to gain "risk insights"

Captive owners can follow the "fully-customised" or the "semi-customised" path to develop an optimal captive risk retention. The first approach is based on the individual risk profile and therefore a real

tailor-made analysis. The second approach bases the analysis on an industry segment benchmark. Large corporate insurers should have access to such data in a consistent manner.

A fully-customised analysis refers per line of business to the specific risk profile of the captive owner and identifies the key figures that drive the risk, provided that the following company information is available (see figure 2, next page).

Since various factors can drive the risk profile of a captive owner like size, industry, geographic locations, growth potential and other factors, a certain level of information is required to get a realistic sample. If individual captive owner data is not available, sometimes industry data might instead be captured for a first indication on possible captive limits.

Interestingly, in Zurich's captive portfolio for selected industry segments we have experienced that, for instance, the "retailer segment" runs very similar claims statistics for the risks related to property and liability. This allows us to first provide captive owners of this segment risk insight results without performing a tailor-made analysis. This has resulted in a tangible recommendation of a per occurrence and annual aggregate captive limit per line of business.

"Quantitative risk analysis in order to develop optimal captive retentions are of interest for captive owners," says Francoise Carli, independent Captive Consulting specialist and former Group Risk Insurer of Sanofi. "Especially in our current market environment captive owners should receive an insurer's view which includes opportunities for a multi-line and multi-year term under a holistic consideration" she adds.

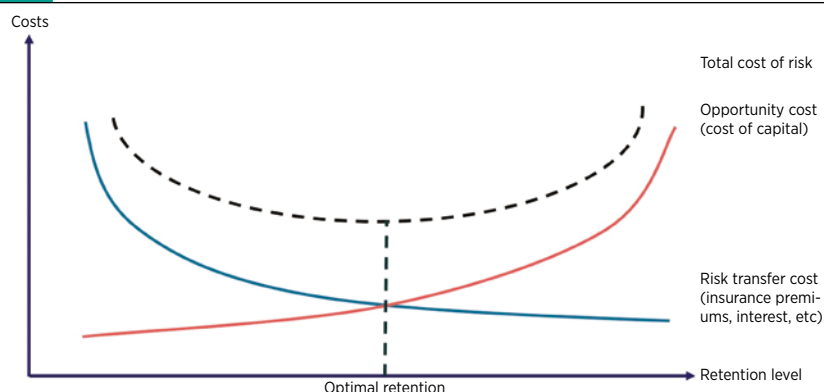
Stages of making an optimal retention level happen (see figure 3, next page)

Customer experiences have shown a typical project involves four key stages:

- Identification of risk through the analysis of historical claims and exposure data
- Risk evaluation
- Structuring and calculation of the optimal risk transfer
- Cost/benefit analysis to determine effective implementation

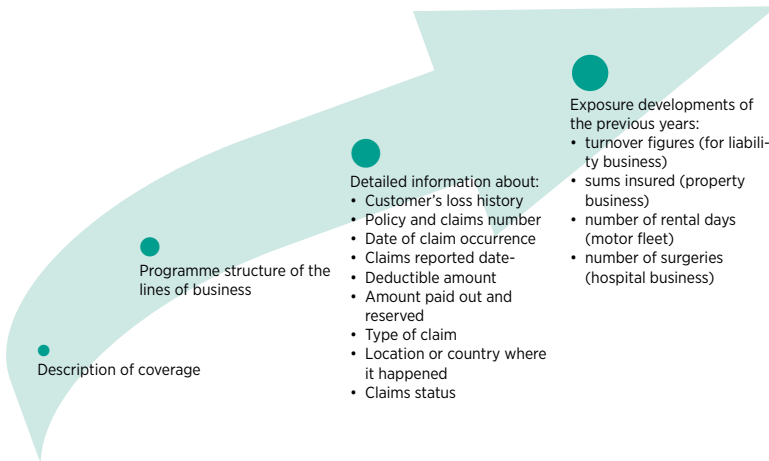
Phase I: Risk identification through the analysis of historical claims and exposure data. If company-specific historical claims data is available, these empirical figures

DATA | FIGURE 1



...in order to efficiently allocate the company's rare capital to the most adequate risk carriers and to minimise the total cost of risk

DATA | FIGURE 2



are processed on the basis of individual claims over the last five to 10 years. If it is not possible to derive appropriate distribution functions for the size and frequency of individual claims in relation to the analysis period, the company can be assessed against the corresponding sector benchmark. In the absence of any large or major claims whose value is incorporated into the retention calculation, so-called exposure analyses are generally also carried out parallel to the quantitative investigations of historical claims figures. To this end, the analysed companies are compared against the benchmark for the corresponding sector. The exposure method makes it possible to simulate potential claims scenarios.

Phase 2: Risk evaluation. The existing distribution functions are used to determine expected claims figures and variances as well as to generate information on frequency distributions and thus the claims quantiles. At the end of the first two phases it should be possible to derive an actuarial price for the risk financing of the individual customer portfolio.

Phase 3: Structuring and calculation of the optimal risk transfer. Once a quantitatively calculated (technical) price has been determined, it is possible to define the optimal risk management investment for a retention. The determination of an optimum level strives to generate the following increased company-specific benefits:

- The transparency of claims data, e.g. classified by business unit and risk, which can be used by management as a basis for making decisions
- The transparency of claims data to facilitate discussions with corporate insurers
- Optimised retention and minimised

transfer costs achieved through individual pricing

- Efficient use of internal capital to cover risk.

Phase 4: Cost/benefit analysis to determine effective implementation. The various implementation options are now assessed and weighed against each other by means of an economic analysis. The results of a study of this kind show the level of quantitative risk management investment in comparison to the expected actuarial gains where the company bears the risk itself.

The choice of an effective risk financing instrument to manage retained risk is influenced at all times by the corporate structure of the insured company, for instance whether it operates on a national or international scale.

Conclusion

Optimal risk management remains a constant challenge for providers of insurance capacity and customers alike. In the current market environment, the management of natural catastrophe exposure might become an important part of risk insight analysis. Furthermore, insight knowledge is also of interest for internal risk management purposes, since risks will be better understood and consequently better managed. Since corporate customers and insurers are in pursuit of the same goal, namely to increase risk quality, they are looking at a win-win situation which could therefore also lead to a mutually agreeable long-term business relationship.

Zurich Commercial Insurance is committed to assist captive owners with their large and complex insurance requirements and interested in entering into long-term business relationships. ☾

DATA | FIGURE 3

