Setting premium rates can be a challenging exercise for captive insurance companies. A number of factors can have a significant impact on whether or not the premium rate for an exposure is adequate and appropriate. The factors could include the perils covered by the captive program, the nature of the exposures insured in the captive, and changes in the risk profile due to risk management initiatives. Actuaries attempt to quantify the impact of such factors during the pricing process. In order for the premium rates to appropriately reflect the risks being insured, there must be a constant and thorough communication and information exchange taking place between the actuary and the risk manager.

For decades, captives have been used as risk-financing vehicles by organizations looking to recapture some of the underwriting profit lost to the traditional insurance market, to provide coverage that may have otherwise been unavailable, and to fill in gaps in their existing insurance programs. One of greatest advantages of an organization insuring its exposures through a captive is the opportunity to craft the policy language exactly as it would like it to read.

As an example, if your organization had been purchasing insurance through the commercial market, some typical exclusions to the policy may exist, such as coverage for claims related to environmental and/or asbestos issues. They may be cost-prohibitive or altogether unavailable to endorse on to the policy. A policy issued by a captive can easily be written to accommodate these types of risks. In fact, because the policy is typically written with the captive owner’s specific needs in mind, it can be written with as limited—or more likely, as broad—a coverage as the captive owner wants.

Because captive language can be so flexible and customized to meet the needs of the insured, it may present additional challenges when it comes time to price the product.

From an actuarial perspective, pricing a coverage for a captive often involves looking at the past experience of that coverage and adjusting the results to reflect inflation (for both losses and exposures), legislative changes, updated expense forecasts, etc. When a captive has been in business for a number of years, has a statistically credible history of losses, and is keeping the terms of the coverage consistent from year to year, this is a reasonable approach. Challenges arise when the captive has no credible loss history, when the risks that a captive is insuring are different.
or altogether new, or when the terms of the policy are different from what had been covered previously. In situations such as these, good communication becomes critical between the risk manager and the actuary that is involved in the pricing. This ensures that the pricing exercise is done correctly.

For example, consider a “Firm ABC” that had been purchasing professional liability coverage from the commercial market for a number of years. The terms of the policy have historically excluded coverage for asbestos-related claims. Firm ABC is now going to insure its professional liability claims through a newly established, wholly owned captive insurance company. The actuary pricing this coverage would typically rely on the historical loss experience of Firm ABC, assuming it has credible experience, or perhaps on industry loss costs used to price this type of coverage. If the actuary is not aware that there has been an expansion in coverage, namely the inclusion of asbestos coverage, the resulting premium could be inadequate. This situation can work in reverse as well. Consider the same example, except now Firm ABC had been purchasing professional liability insurance that did include coverage for asbestos-related claims. If that same Firm ABC were to decide that it was now going to insure that coverage through a captive, however, and exclude the asbestos-related claims from coverage, then adjustments would need to be made during the rating process. Otherwise the premiums, based on loss experience or loss costs with provisions for asbestos-related claims, could be excessive. The risk manager, the underwriter, and the broker typically have the in-depth knowledge related to the subtle differences in coverages that aren’t necessarily identifiable by an actuary reviewing only loss runs. Communicating this information will help the actuary make sure that the necessary adjustments in the calculation of premiums are being made.

During the pricing process, communication between the risk manager, underwriter, and actuary shouldn’t be limited only to the types of claims that are going to be covered. Having a complete and thorough understanding of the exposures to be covered is just as important.

For example, consider “Company XYZ,” a manufacturing company that is going to be insuring its workers’ compensation exposures through its captive. Historically, Company XYZ’s payroll has been limited to only a few states, located in the northeast part of the country. Pricing this program would likely involve reviewing the historical loss experience and payroll of Company XYZ to come up with a loss rate (i.e., loss per exposure unit). The loss rate would be applied to the projected payroll to arrive at an estimated loss amount. Adding in budgeted expenses and potentially a risk margin would generate a premium estimate for the upcoming year.

However, let us now assume that Company XYZ will be making some changes to its business in the upcoming year. These changes include the closing of a factory that was in the state of California and relocating it to Tennessee. In total, Company XYZ’s payroll for the next year will remain very similar to what it would have been had there not been changes to the business and the factory continued to operate in California as it had in prior years.

If a pricing exercise does not consider the relative impact in expected loss rates of shifting operations to a different state, this could result in a premium amount that does not truly reflect the exposures that it was intended to.

This is because workers’ compensation laws, such as those that specify the amount and length of benefit levels to be paid, as well as thresholds to determine whether a claimant is eligible for temporary or permanent partial or total disability, vary from state to state. In addition, the cost of medical care can vary significantly from state to state in the upcoming year.
state. Therefore, the cost to settle a claim for an injured worker in one state could be vastly different if that same injury happened to the same employee in a different state. A failure to communicate changes in exposures, in this case operations, can have as significant an impact on the premium adequacy as what coverage is being provided. Here again, communication will help ensure that the risks are priced appropriately.

In addition to changes in coverage and operations/exposures, another area that can have an impact on the premium calculations of a captive is loss control initiatives. For instance, given the vast amounts of data that have become available to companies, and the computer power that is available to analyze this data, companies will now often implement risk control measures in an effort to reduce the frequency and severity of their claims based on the results of analyzing their own experience.

For example, let’s assume Company XYZ conducted an analysis of its historical claims experience. Based on the findings of the analysis, Company XYZ identifies that many of its workers’ compensation claims are the direct result of employees slipping and falling in the workplace. As a result, Company XYZ has decided to implement some sort of loss control initiative to address the problem and will now require employees working on the floors of its manufacturing plants to wear a specific type of slip-resistant shoes, which have a track record of reducing slips and falls. It would be reasonable to assume that such a loss control measure could have some impact on Company XYZ’s frequency of workers’ compensation claims going forward.

Incorporating the impact of new coverages, or changes in workers’ compensation benefit laws, can typically be done through the review of industry statistics. Incorporating the impact of loss control measures can be significantly more challenging. In the example above, let’s assume that not only is Company XYZ going to require the use of slip-resistant shoes, they are also going to pay for them. Company XYZ assumes that its financial investment will be returned in the form of reduced expected claims costs, and thus, a reduced premium amount. In order to properly reflect the expected savings that such a loss control measure may have, the actuary, risk manager, and underwriter must again communicate.

In addition, the actuary will likely also be considering the results of available studies that document the savings expected with the implementation of such loss control measures. In these situations, it is crucial that the actuary pricing the coverage has a thorough understanding of the loss control measure, and can point to credible data sources to help quantify the impact. In some instances, these analyses simply aren’t available. This leads to the actuary imposing a judgment as to how quantify the impact, which, among other options, could include making no adjustments at all, and waiting to evaluate the impact over time.

When actuaries use historical data to extrapolate future projections, the underlying assumption is that the past is representative of the future.

When this assumption is not valid, the differences must somehow be accounted for and reflected in the pricing process. Otherwise there is a risk of excessive or inadequate premiums. Risk managers and underwriters are typically the best sources of information when a thorough understanding of the exposures is required. These individuals have the insight, understanding, and historical knowledge of an organization’s exposures and bring expertise into the pricing process that can go a long way in helping to establish appropriate premium rates.

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