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Measure Total Cost of Risk to Drive Smarter Decisions

A generally accepted concept in the financial world is that if you can't measure something, you can't manage it. That also holds true in risk management. Yet many businesses do not measure their risk.

While businesses that do not quantify their risks could still have effective programs to mitigate and transfer them to insurers or other parties, they may be missing a big part of the equation. Boiling down a broad set of data on major drivers of risk into a single metric — one that is easily understood by risk professionals, financial professionals, CFOs, and treasurers alike — can enable organizations to make better decisions on how to direct time, effort, and capital. It allows for decisions to be made more holistically, on a portfolio basis, and with greater transparency.

That is why many organizations can benefit from quantifying their total cost of risk.

What Is Total Cost of Risk?

Total cost of risk (TCOR) has existed as a concept for decades; many members of the insurance and risk management community use it to regularly guide their decision-making. Ask 10 industry professionals how to define it, however, and you may get as many distinct responses.

One widely accepted definition of TCOR is the sum of an organization's:

- **Insurance premiums** — how much it is paying to transfer various risks to insurers.
- **Retained losses** — the cost of any losses not covered by insurance.
- **Administrative expenses** — how much it costs to maintain the risk management department, including internal costs to service insurance programs and manage claims.

Regardless of the specific elements that are included, the purpose of the exercise is clear: to arrive at a directionally accurate valuation of the major risk areas for an organization — a foundational figure that can help to drive smarter, more effective risk management decision-making.

Quantifying Your TCOR

In seeking to measure TCOR, it's important for risk professionals and others to avoid overcomplicating matters. The easiest way to muddle TCOR calculations is to strive for perfection. Arriving at a precise, comprehensive, and completely accurate TCOR metric — one that captures all of your potential risk management costs — is nearly impossible.

Spending time trying to calculate that perfect figure can be counterproductive. With a focused amount of time and effort, however, businesses can capture the bulk of their risk costs, which is enough to start driving smarter, more informed risk and insurance decisions.

Calculating TCOR can be relatively straightforward. If your chosen definition of TCOR is ***insurance premiums + retained losses + administrative expenses***, it's simply a matter of adding those individual figures together. This doesn't require highly sophisticated software; you can easily complete your calculations and create charts — for example, showing how your TCOR may have increased or decreased over time — using Microsoft Excel or similar tools.

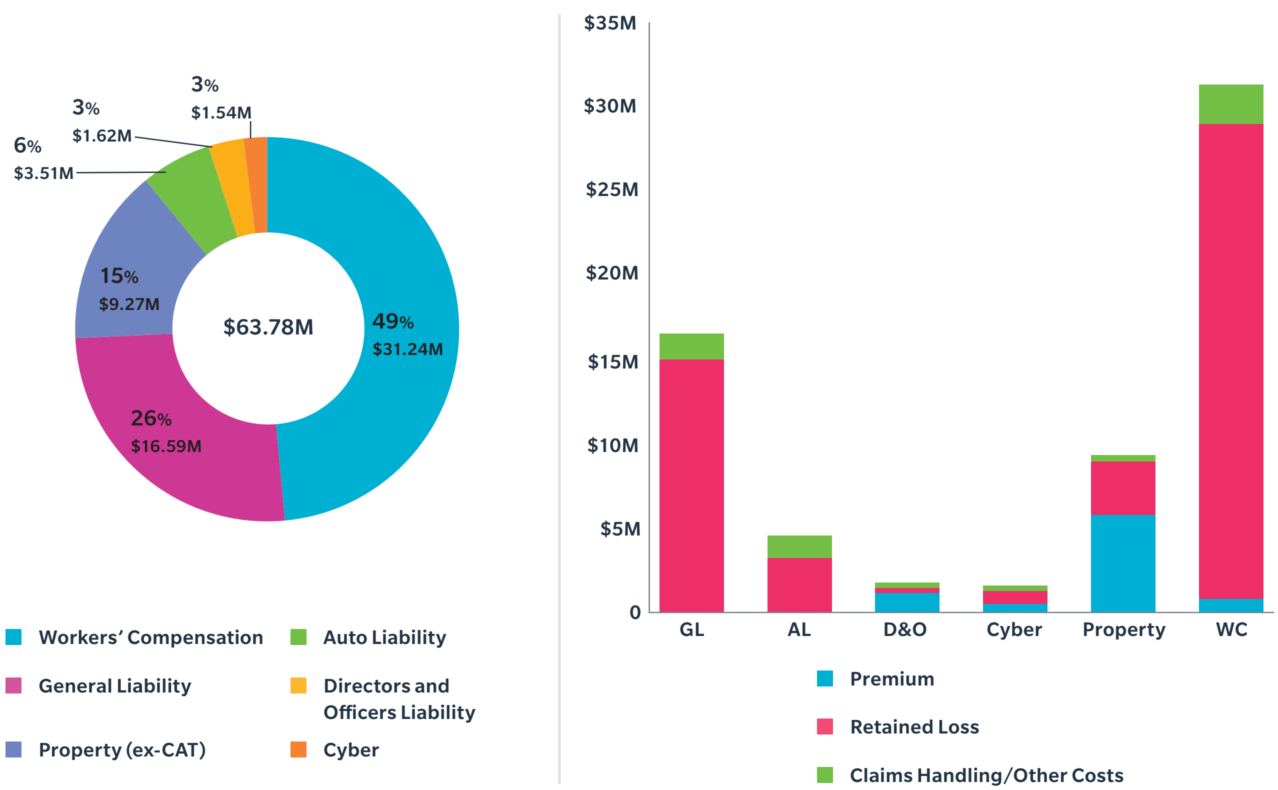
Calculating your company's TCOR is a good start, but on its own it isn't always enough. Knowing that your TCOR is $40 million today is useful, but it's better to know how that figure compares to what your TCOR was a year ago or how it stacks up against peers or competitors. That's where benchmarking your TCOR can help, providing essential context and enabling you to see where your organization is performing better or worse year-over-year and/or compared to others. It also allows you to better prioritize your risk management resources and investments.

Benchmarking efforts, historically, have focused mostly on extremely broad industry categories; if a company could be described as being primarily in the retail industry, it would typically benchmark its TCOR, claims history, insurance programs, and more against those of other companies that could also be described as "retailers." Modern benchmarking techniques used by risk advisors now recognize that, while directionally useful, this approach can be much improved.

Today, many companies are involved in activities beyond their core operations, and even if two companies fall within the same broad industry category, they

FIGURE 1

Capture key risks and cost drivers for a simplified total cost of risk calculation.

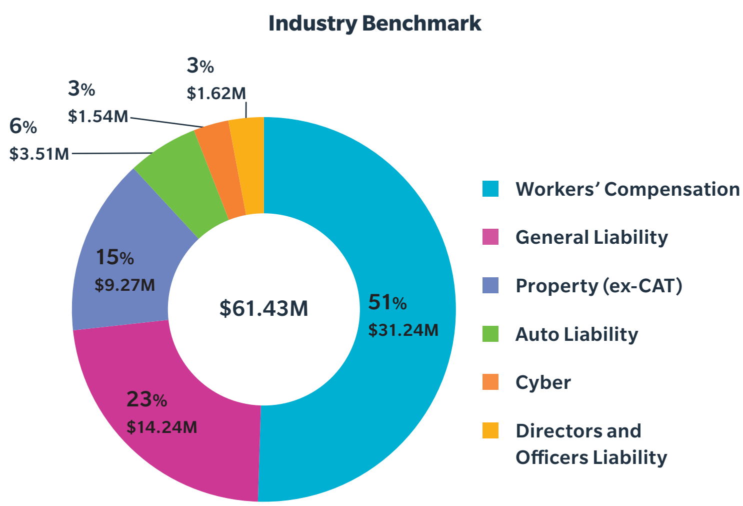


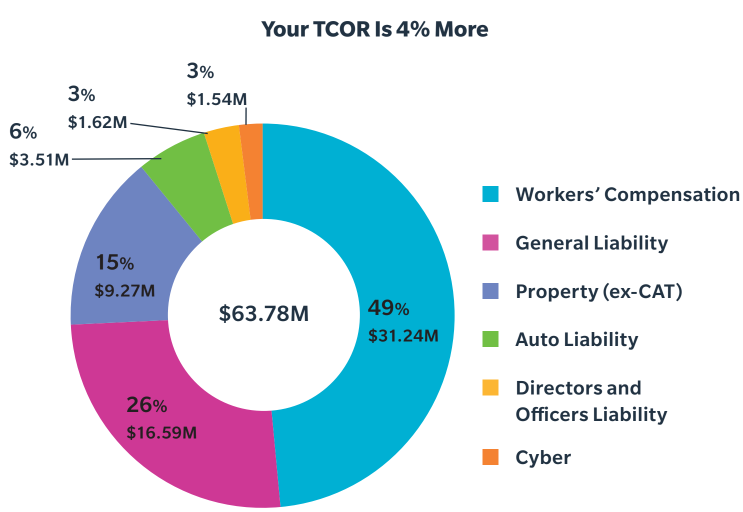
could have significant differences that would make comparisons imprecise. For example, two retail industry companies could have different mixes of online and brick-and-mortar sales, which could make their risk profiles — and costs — substantially different.

Instead, you can work with your advisors to conduct "virtual peer" comparisons. Rather than comparing your organization to companies in the same nominal industry, you can benchmark companies with similar risks, claims types, and other characteristics — such as size, maturity, and financial health — even if those companies operate in different sectors from your own.

FIGURE 2

Benchmarking TCOR against companies with similar risks, claims types, and other characteristics provides deeper insights.





HOW TCOR COMPARES TO OTHER FINANCIAL AND RISK METRICS

TCOR is, in some ways, analogous to other risk measures that businesses and financial professionals may use, such as the value at risk (VaR) for a portfolio of investments.

Another metric — tail value at risk (TVaR) — can also be useful. TVaR is essentially VaR for insurance. It measures the potential volatility of an organization's risk tail — the potential for extreme events. So, in essence, it allows organizations to calculate the potential average loss from the worst possible outcomes.

One of the benefits of VaR is that it can provide a measure of potential volatility for various securities in real time, as the markets move throughout the trading day. The world of insurance and risk management, however, is not quite that dynamic. Though new data collection, analytics, and digital tools backed by artificial intelligence are pushing the industry in the direction of real-time metrics, pricing for insurance coverage is determined when a policy is renewed, typically on an annual basis. And claims are often reported weeks, months, or even years after a loss has taken place and may be paid out over a lengthy time period.

So while it's not yet practical to know whether TCOR is higher or lower today than it was yesterday and adjust strategies accordingly, it is a useful measure for informed risk management decision-making by financial and risk professionals throughout the year.

Enabling Next-Level Risk Management

Risk professionals often make decisions in isolation, looking only at what's important in the short term. They might ask: *How can we keep the premium we're paying for insurance and our losses net of coverage as low as possible?*

At first glance, the answer to this question might seem to be to purchase less insurance and retain more risk. The question itself, however, is problematic: The goal shouldn't necessarily be to simply *reduce* your average TCOR. Instead, you should seek to *optimize* TCOR, taking into account the volatility and efficiency of the capital allocation, risk mitigation, and expense mix for your organization. In doing this, it's important to look at all areas of risk — including property, workers' compensation, and cyber — holistically.

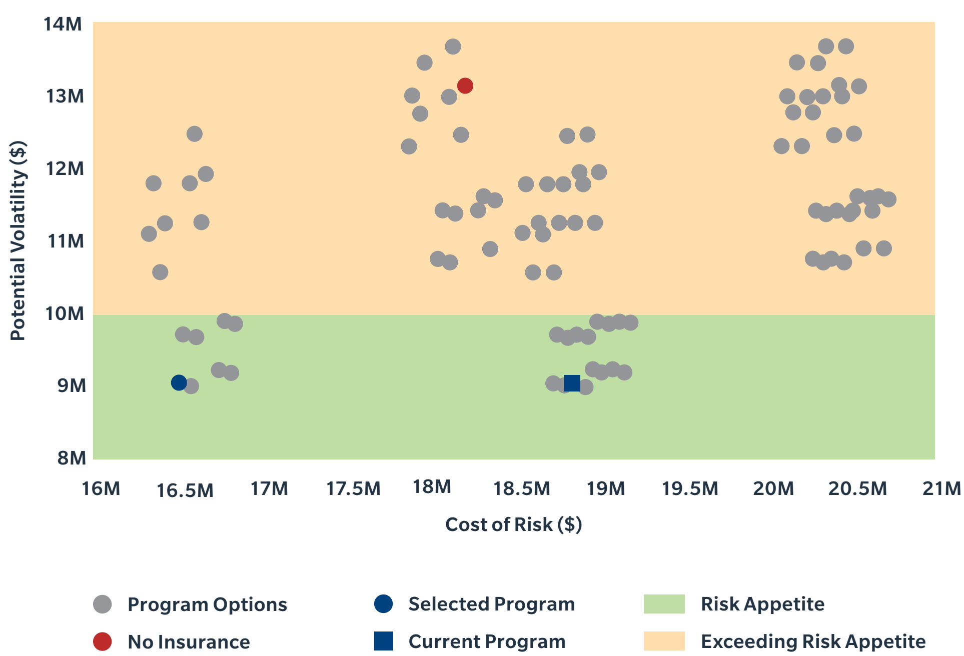
Rather than looking to control individual risk drivers in isolation, TCOR can enable organizations to capture a portfolio view and improve engagement between risk professionals and CFOs by allowing organizations to prioritize risk management efforts based on their potential returns on investment.

With the aid of stochastic modeling tools, organizations can complete a risk finance optimization exercise that can help evaluate various alternative structures. This can help determine how TCOR would be affected by purchasing more or less insurance, changing investment in mitigation, or retaining more or less risk. It can also help risk professionals determine the viability of alternatives to traditional commercial insurance, such as a self-funded captive insurer or reinsurance, and anticipate potential changes in risk volatility.

But insurance is only part of the story. While many large businesses' risk management teams naturally spend a great deal of time managing their insurance costs, they often expend significant effort — including time and financial resources — to achieve what might ultimately be a negligible reduction in premium expenses. Calculating TCOR could help you decide if such effort should instead be directed toward reducing loss frequency and claims costs.

FIGURE 3

Potential savings to be gained from optimizing an insurance portfolio and total cost of risk.



ADVANCED TCOR STRATEGIES

If a company is just getting started on calculating and managing TCOR, it's best to keep it simple and focus on insurance premiums, retained losses, and administrative expenses. But as you begin to gain insights from your TCOR calculations, you might consider digging deeper and looking at other metrics, including those that measure volatility.

Even the best-prepared company can face unforeseen events, so every organization bears an implied charge for the unexpected. TCOR, however, places no value on uncertainty — even though the frequency and severity of a company's losses can fluctuate annually.

That's why some organizations also measure economic cost of risk (ECOR), which includes everything measured in TCOR plus an implied risk charge, based on a company's cost of capital.

An implied risk charge is a measure of the volatility cost of a company's loss potential. Implied risk charge can be measured by evaluating your company's potential for loss exceeding its average expected losses, and calculating the financing costs required to fund for loss above that level — meaning the company's unexpected losses.

You can calculate your company's implied risk charge by taking three steps:

- First, define your company's risk tolerance or its ability to withstand unexpected losses.
- Second, look at the loss history of your company's peers, to understand its potential for suffering severe losses.
- Third, examine your company's financing costs — the contingent capital required in the event of a severe loss.

A company's implied risk charge can vary depending on how predictable or consistent its loss history has been. For example: Company A and Company B have both had an average of $10 million in annual product liability losses over the last five years. But while Company A has had only one year exceeding that average (a year in which the company had $11 million in losses), Company B suffered losses of $15 million in one year and $18 million in another. Assuming borrowing costs are the same, Company B's loss history is more volatile — meaning it has a higher implied risk charge.

For example, if you can reduce your expected losses from workplace injuries by $2 million, you could redirect those savings to spend an extra $2 million to purchase higher cyber insurance limits. So the amount of money you're spending is unchanged, but it's being put to better use, reducing potential volatility and offering balance sheet protection.

Quantifying TCOR at consistent confidence levels can also help organizations decide where to target those loss control efforts. Workplace safety may be a good place to devote time and resources, given that workers' compensation is often among an organization's largest insurance expenses. But if your organization already has a better-than-average workplace injury rate, efforts to manage cyber or product liability losses might yield greater returns.

Opening the Door to More Informed Risk Decision-Making

TCOR isn't a new concept, but if your organization doesn't currently calculate it, you can reap significant benefits from doing so.

As you seek to measure your TCOR, beware of efforts to overcomplicate matters. Instead, start simple — you won't generate a perfect measurement of your risk, but you and others in your organization will have somewhere to start. From there, you can use increasingly advanced data collection and analysis tools and techniques — some of which are available today and others that might be the norm tomorrow — to measure and optimize your total cost of risk. Artificial intelligence, innovations tied to the Internet of Things, computing power improvements, and responsive risk transfer mechanisms could even enable you to manage your total cost of risk in real time as opposed to doing so on an annual or semiannual basis.

Cyber Risk Quantification

In addition to calculating TCOR across the enterprise, risk professionals can also measure their companies' risk in specific areas. Given its prominence for organizations of all sizes and across all industries, one such area where risk professionals can reap significant benefits is by measuring their companies' cyber risk. The *2020 AFP Risk Survey*, conducted with support from Marsh & McLennan, found that more than half (53%) of treasury professionals believe cybersecurity risk is the most challenging risk to manage today — and 51% of survey respondents report that will remain true three years from now.

A financial stress test of digital risk can allow organizations to not only measure their first- and third-party cyber risks, but also map and measure how cyber events relate to other corporate risks — for example, product liability for manufacturers and directors and officers liability stemming from cyber-related securities litigation. A quantification exercise can help an organization determine the total distribution of its potential cyber losses and use that information to optimize its insurance program and risk mitigation strategies and better understand how cyber risk relates to the totality of its business operations.

To accomplish this, businesses can take a scenario-based approach, looking at potential events that could result in sizable loss of revenue, regulatory fines, and other impacts. These events could be divided into broad classes like data breaches, ransomware attacks, or business interruption events. More detailed scenarios — provided they are realistic — could yield better and more accurate results.

Quantifying cyber risk in this way is important for several reasons. One is that many organizations underestimate their potential cyber risk. Risk professionals, senior executives, and others often think that their largest potential loss could be in the *millions* of dollars, but in actuality, it could be *billions*.

Beyond the metrics it generates, the scenario-based process itself can also yield benefits. Like tabletop exercises and other methods that businesses use to test and rehearse their responses, playing out various scenarios can allow organizations to understand what could actually happen in the event of a loss and evaluate whether their existing plans are effective. The process can also help organizations clarify and refine roles and responsibilities for key stakeholders, such as technology teams and general counsel.

And, like broader enterprisewide TCOR exercises, cyber risk quantification enables organizations to determine how to best control their cyber risk costs based on where they can realize the greatest returns on investment. For some organizations, the greatest return could be achieved by modifying cyber insurance programs — purchasing more or less coverage overall and/or for specific perils, making use of a captive rather than purchasing from commercial insurers, or amending policy terms and conditions. In many cases, businesses can achieve more by focusing on pre-loss efforts. That might include investing in more advanced encryption technology, revamping training efforts, and more.

CASE STUDY

How Calculating TCOR Can Help an Organization Prioritize Cost Optimization Opportunities

A large US-based retailer had grown quickly through acquisitions in an industry rife with consolidation. Domestic operations remained its largest division, but it had also acquired a collection of smaller, previously fragmented businesses, predominantly focused on Europe and Asia.

The new organization struggled to optimize its total cost of risk, largely because the legacy risk profiles of its individual segments varied significantly due to differences in local regulations, litigation trends, and customs and practices. The varying sizes of balance sheets for individual countries also proved problematic.

Shortly after completing its acquisition spree, the company decided to collect TCOR data consistently for the first time. Its risk management team began with a set of four basic cost drivers: insurance premium, expected losses, claims handling costs, and risk management department costs. The retailer then calculated TCOR for individual countries as a percentage of revenue so it could prioritize those countries with substantially higher TCOR than its virtual peer. These became the focus of the retailer's risk management intervention efforts, which included accelerating notification for both auto collisions and employee injuries, employee incentive initiatives, proactive return-to-work programs, and property risk data quality improvements.

The retailer realized that it would not be able to harmonize TCOR per dollar in revenue across all geographies, which is why peer benchmarking became so useful. Within three years, the company reduced its TCOR by 18% in its priority countries. Those efforts continue as the retailer now systematically collates and reviews TCOR data as part of its annual financial planning cycle.

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Headquartered outside of Washington, DC, and located regionally in Singapore, the Association for Financial Professionals (AFP) is the professional society committed to advancing the success of treasury and finance members and their organizations. AFP established and administers the Certified Treasury Professional and Certified Corporate FP&A professional credentials, which set the standards of excellence in treasury and finance. Each year, AFP hosts the largest networking conference worldwide for more than 7,000 corporate financial professionals. Visit www.AFPonline.org to learn more.

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For more information, visit marsh.com, contact your Marsh representative, or contact:

JOHN H. DAVIES
Global & North America Leader, Analytics Solutions
Marsh Advisory
+1 347 789 2794
john.h.davies@marsh.com

TOM HUNT, CTP
Director of Treasury Services
Association for Financial Professionals
p: +1 301 961 8676
m: +1 763 350 1172
thunt@afponline.org