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CICA Essay Contest: Next Generation Captive Insurance Solutions for New Risk Challenges

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Captive Solution: Opioid Epidemic in the U.S.

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Captive Solution: Opioid Epidemic in the U.S.

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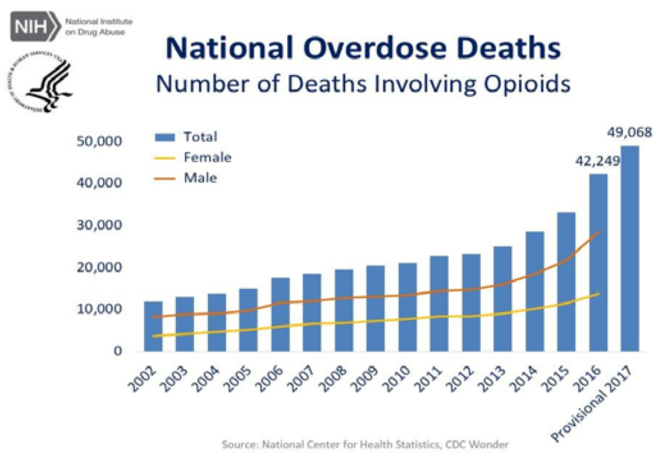
CICA Essay Contest

Next Generation Captive Insurance Solutions for New Risk

Feb 15, 2019

The opioid epidemic takes the lives of more than 130 people every day in America.[1] In 2015 alone, more than 33,000 Americans died as a result of an opioid overdose.[2] *Time* magazine called opioids, "the most powerful painkillers ever invented" and said that they are "creating the worst addiction crisis America has ever seen."[3] The opioid crisis is expected to have an annual cost of $78.5 billion in the US which includes medical treatment, loss of earnings, pain and suffering, and death from overdose.[4] Hospitals and doctors are often blamed by patients' families for overprescribing the drug, should a misuse issue arise. To help ease the national crisis, tailored captive solutions for doctors' medical malpractice insurance may be a viable solution.



DEATHS DUE TO OPIOID OVERDOSE. Source: National Institute on Drug Abuse

[1] *Opioid Overdose Crisis.* (National Institute on Drug Abuse) Revised January 2019. https://www.drugabuse.gov/drugs-abuse/opioids/opioid-overdose-crisis
[2] *What is the US Opioid Epidemic?* (US Department of Health and Human Services) 19 September 2018. https://www.hhs.gov/opioids/about-the-epidemic/index.html
[3] *The Problem with Pills for Treating Back Pain.* North American Spine. 19 June 2015 https://northamericanspine.com/blog/pills-treating-back-pain/
[4] Gagarin, Serge. *Can Opioid Crisis-Related Losses be Quantified?* (AIR: In Focus) 18 June 2018. https://www.air-worldwide.com/Blog/Can-Opioid-Crisis-Related-Losses-Be-Quantified-/

Doctors with similar exposures to the opioid crisis may benefit by banding together to form their own captive or risk retention group (RRG) to insure medical malpractice liability claims related to opioids. Forming a risk retention group would be a helpful captive insurance solution for doctors because all of the policyholders, the doctors, are in a related industry which may ensure similar opioid risk exposure profiles. The risk retention group can be structured as a limited liability company and may be domiciled in a state that has favorable tax treatment. Today risk retention groups are extremely popular in the medical malpractice insurance market and have sophisticated programs in place. [5]

How can doctors' captives help the opioid crisis?

From a loss control perspective, doctors who form the group captive together may be more careful in the amount of opioids they prescribe to each of their patients. Since each of the doctors' own capital is on the hook, they may be more diligent in prescribing the opioid drug and monitor possible misuse more closely. Patients and society may benefit if doctors are more cautious and ask more questions, such as if they are seeing other doctors or are prescribed painkillers elsewhere. This can help lower the addiction rate, misuse rate, and in the long run may prevent overdose and deaths due to opioid abuse.

Aside from the societal benefits of this captive solution, the premium allocated to the group captives may be tax deductible if they are considered an ordinary and necessary business expense. Doctors might then benefit with a lower taxable income. These tax deductible premiums may incentivize doctors to utilize a captive to help with additional risk financing to the captive's long tailed claims that often occur with medical

[5] *What's the deal with medical malpractice insurance Risk Retention Groups?* (eQuoteMD). 17 March 2017 https://equotemd.com/blog/whats-the-deal-with-medical-malpractice-insurance-risk-retention-groups/

malpractice losses related to opioids. Over time the doctors may see slight accumulated investment income with their premiums invested to the captive.

Doctors can also limit their exposure with a stop loss reinsurance structure by having direct access to the reinsurance market. By banding together in a group captive, doctors may be able to purchase reinsurance at a more affordable rate due to the economies of scale than if they each purchased reinsurance individually.

Doctors may also elect to have strict, select discretionary underwriting criteria to join the RRG. They can pick the group members of the risk retention group based on doctors' loss experience factors and reputation. This may help ensure that the doctors sharing the risk and splitting the premiums are held responsible for their actions. Diversification of doctors in various specialties and locations may also make for a more favorable fact pattern for risk distribution.

Possible challenges to setting up a group captive

It is important to note that captives require additional management expense and knowledge in order to implement successfully. A captive consultant or manager focused on organizing the captive may be necessary. The benefits of a captive should be evaluated to make sure they outweigh operational costs. There may also be some compliance with meeting minimum reserve requirements and with according to auditing measures. Auditors and regulators want to ensure captives have sufficient capital in reserves and can pay out claims.

While the ability to write off premiums as a business expense to lower taxable income is advantageous for doctors', it comes with a trade-off as the group captive should ensure they are updated with the Internal Revenue Service. There may be complex concepts of risk distribution and risk transfer requirements which require captive consults or management to advise.

By using a group captive, doctors pooled together will be incentivized to promote loss control in the opioid epidemic. Loss control may lead to higher awareness and transparency in America regarding addictive drugs. Doctors have the resources, capital, and captive consultant experts to help make a concrete difference. By evolving the financing methods for medical malpractice in the opioid industry, doctors can help mitigate the opioid epidemic in the US.

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SAINT JOSEPH'S UNIVERSITY:

Kayla Cecchine and Brendan Tarte

Captive Insurance: An Intimate and Efficient Risk Financing Solution to Climate Change and Tax Rulings Risks

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Captive Insurance: *An Intimate and Efficient Risk Financing Solution to Climate Change and Tax Rulings Risks*

Kayla Cecchine and Brendan Tarte

Saint Joseph's University 2020

CICA Captive Essay Contest

February 15, 2019

The insurance industry is complex and dynamic, with a wide variety of products and services to provide problem-solving solutions for clients. For businesses with large, sophisticated exposures, traditional primary insurance policies are not economically feasible or efficient. Captive insurance companies provide a more intimate and customized approach to financing insurable risks, allowing the goals of the organization to more closely align with that of the insurance program. Captive insurance provides a tremendous cost benefit to the parent company, avoiding the average 40% markup of property and casualty insurers while allowing the parent company to realize insurance profits that would be ceded to the insurer in a traditional insurance transaction. In addition to internalizing insurance profits, premiums collected for captives receive favorable tax treatments, allowing another layer of economic benefit. Captive insurance companies can be an appropriate and cost-effective means of alternative risk financing for tax rulings and climate change risk.

Captives can provide protection for a corporation against unfavorable tax rulings in several ways. The first being that a corporation can pay premium into its captive as insurance against a tax ruling that results in a loss and then uses this premium to offset the financial impact. Secondly, captives provide immediate tax benefits to a corporation as premium payments to a captive are tax deductible. This deduction has been the subject of controversy as corporations have used captives as a tax shelter. However, the income (insurance premiums) will appear as an asset to the company rather than an expense as with traditional insurance. If no loss occurs, the corporation is in a stronger financial position as a result of using a captive.

All companies face exposure to risk associated with the changes in tax law. These changes can positively or negatively affect a company’s bottom-line, or even have both positive and negative effects from the same change. Companies can face a lot of uncertainty in the process leading up to and in the wake of a tax ruling regarding the effects on their operations. With disruptive technologies emerging such as blockchain and cryptocurrencies, tax professionals are questioning how to appropriately apply taxes. Because of these uncertainties related to tax rulings, corporations need to have an adequately prepared solution in the event that a tax ruling manifests into a negative impact. Options for these solutions can come from many sources, including the creation of a captive insurance company. A captive insurer can provide bottom-line safety to a corporation in the the wake of adverse tax ruling events.

Changes in tax law can have a negative impact on a corporation in changes to the tax rate, deductions or credits. If a corporation is subject to a higher tax rate or can deduct less expenses, there will be a negative bottom-line impact. For example, in 2017, the United States implemented the the Tax Cuts and Jobs Act (TCJA) which cut the corporate tax from 35% to 21%. Administration promoted the TCJA as beneficial for corporations, although the tax cut is a large benefit for many, some faced negative consequences as a result of the act. Two negative effects of this act relate earnings before interest, tax, depreciation and amortization (EBITDA) as well as Domestic Production Activity Deduction (DPAD). For EBITDA, the TCJA capped the deductible interest at 30% of EBITDA and will reduce the deduction again in 2022 when the 30% cap will apply to earnings before income and taxes after depreciation and amortization expense[1]. For highly leveraged corporations with significant interest expenses, the impact of the cap effectively raised the cost of money and reduced the incentive to borrow money, in which the latter two effects limited the ability for a company to expand. The TCJA also eliminated the Domestic Production Activity Deduction, which provided a 9% deduction off of taxable income earned through operations in the United States[2]. The elimination of this deduction adversely

[1] Richter, 2017
[2] TurboTax

affects corporations with operations in the United States and, ironically for an act that was supposed to bring jobs back to the US, could stimulate offshoring and increase operational costs. These changes in allowable deductions could negatively impact corporations that are highly leveraged or have operations in the United States. The immediate impact of these risks could be mitigated through a captive insurance company.

Emerging technologies have the potential to create uncertainty related to tax rulings with regards to how governments decide to regulate and tax these technologies. Emerging technologies can change the way taxation functions and generate risks related to best-practice taxation of emerging tech. Corporations will need a solution that can respond to the potential downsides occurring as a result of adverse tax rulings. With the rise of blockchain and cryptocurrencies, debate around taxation of these new forms of transactions has also arisen. Jenny Coletta, insurance tax partner, international tax and transfer pricing, EY, explained:

> "[The Organization for Economic Cooperation and Development] has been reflecting a lot in relation to things like blockchain. How do we tax blockchains, the technology and the infrastructure behind that? … A lot of the thinking coming out of countries like India and other emerging markets is that if you are interfacing with a customer in a location, then that is the location where you should be taxed… Other jurisdictions are saying that it should be at the heart of where the development and the innovation is taking place"[3].

Emerging technologies will contribute to the further globalization of already multinational corporations, which pay taxes with respect to where they are incorporated. Blockchain and other technologies can enable greater interaction with customers on a global level, which will instigate debate on the way that corporations pay taxes on emerging technologies. A captive insurer could benefit a corporation in mitigating its exposure to a tax ruling related to use of emerging

[3] Holmes, 2018

technologies. Provided that adverse tax rulings do not occur frequently and are not extremely severe in nature, a captive would provide a solution that could absorb the occasional negative impact due to a tax ruling during the timespan that tax regulation related to emerging technologies is ongoing.

In the case of large companies, risks associated with changes in tax law could be effectively managed through a captive. Captive insurance programs can provide a unique form of protection against tax ruling risk, particularly during a time where both corporate tax laws and their application on emerging technologies are the subject of controversy and change. A captive insurance company for a large corporation could be an ideal solution for tax ruling because it could pay for a loss that results from a tax ruling with money that never left the parent company's possession, unlike a traditional insurance transfer.

Climate change has emerged a controversial topic motivated for personal and political agendas. Regardless of political sentiments, numerous actuarial data supports our globe is warming at a gradual, yet damaging rate. Extreme weather conditions and natural disasters were rated the top two biggest risks facing the world in 2018. In 2017, the U.S. alone was plagued with over 17 weather and climate disasters each with over $1 billion in incurred losses[4].

The effects of climate change continue to expose businesses to new and volatile risks, having the ability to disrupt company operations and add additional costs that can cripple the company's bottom line. Traditional insurance markets can be restrictive with coverage, especially with coastal locations. An economically feasible solution to funding the risk of climate change is captive insurance.

Captives offer a more efficient solution for catastrophe risk financing with customized coverage that is responsive to volatility. Companies that develop captives are able to insure

[4] Friedman, 2018

aspects of catastrophes deemed unprofitable by traditional insurance means. For companies with locations on the coast or areas prone to natural disasters, this means access to insurance mechanisms previously not offered, or at least not at reasonable rates. Through internalizing catastrophe insurance, the parent company is able to intimately underwrite, having closer access to data and resources unique to the company's risk exposure. As the effects of climate change worsen the frequency and severity of weather and natural disasters, the climate change captive would provide a risk financing mechanism that adapts to the changing climate.

Climate change has been incrementally disrupting the traditional insurance industry, forcing insurers to put a value today on the unpredictable future of a warming planet. Despite the rise of catastrophe losses, most insurers are seeing stable rates, which are attributed to the flood of capital into the industry from hedge-fund and pension investors[5]. Low interest rates have increased competition and decreased property-catastrophe reinsurance premiums. Warren Buffett said, “But [global warming] hasn’t hurt the reinsurance industry. And people are pricing still as if it won’t, on a one-year basis. If reinsurance contracts covered 30 years I’d be crazy not to [include the risks],”. The insurance industry pricing has not adequately recognized climate change effects, which indicates a potentially severe future increase in catastrophe premiums. After enduring the Canada wildfire losses in 2016, Aviva increased rates on home-insurance premiums roughly 6% in accordance with new research findings[6]. In extreme cases, companies like Arch have written less property-catastrophe reinsurance because of volatile losses partly attributed to climate change increasing in frequency and severity. Developing a captive would allow a company to head-off potential increases in catastrophe premiums due to realized climate change effects. Climate change risks, with captive underwriting, would reflect the customized

[5] Friedman, 2018
[6] Friedman, 2018

risk profile of the organization, which allows for greater pricing efficiency with short term and long term benefits. Considering companies like Arch writing less catastrophe business, more companies could withdraw from riskier catastrophe markets, leaving less competition and premium increases. Adequately pricing for climate risks through captives in the present day would eliminate a corporations reliance on an insurer to cover their catastrophe needs, reducing the effects of volatile premium pricing. Captives allow for flexibility in coverage, offering solutions to complicated and undesirable risks.

Because of the economic benefits of internalizing the insurance program, we identify captives as an efficient and cost effective approach to financing tax and climate change risks. The captive has a more intimate connection with the risk they are underwriting, which allows for greater control and more accurate and stable pricing, avoiding the average 40% markup of traditional property and casualty insurance policies. In addition, purchases of policies are inclusive in terms of coverage and reflect the customized need of the parent company, avoiding added costs for generic policy coverages not needed by the parent company. Captives capture underwriting profits while premiums receive favorable tax treatment, further enhancing the economic benefit of captive insurance. Captive insurance solutions also allow for internal claims handling, decreasing the claims process and waiting periods of loss payouts. In terms of tax ruling risks, captive insurance programs provide a benefit due to the finite scope of a tax ruling impact. The captive program acts like an emergency fund if a tax ruling were to affect a company’s bottom line. The payouts from a captive will also be paid out quicker than if a company needs to go through a traditional insurance program. As in the case with climate change, premiums are expected to rise with increased consideration for climate change in pricing algorithms. Companies like Arch have already risen catastrophe rates after realizing significant losses partly attributed to climate change. Climate change captives avoid future increase in prices, allowing for stability in cash flows as well.

While tax and climate change captive insurance solutions have substantial advantages for the parent company, there are inherent weaknesses. With any captive, there is a lack or reduction of value-adding benefits that are typically offered complimentary or discounted through traditional insurance policies, such as risk consulting services. For climate change captives, with underwriting being internalized, there is a lack of resources available to captives that are typically available to traditional property and casualty insurers that enable insurers to better understand complex risks, such as climate change. This can lead to a lack of expertise in underwriting and loss reserving to accurately account for the volatility and intangibility of climate change. Likewise, captives can fail, leaving the parent company without insurance protection. In traditional insurance, the insurer has several financial mechanisms, including reinsurance, financially backing their obligations. In many cases, state insolvency fund would provide relief to policyholders whose insurer is deemed insolvent. Captive insurance companies, when they are financially unsound, do not have sufficient financial backing to compensate the parent company in the event of a loss that does not penetrate their reinsurance attachment point. Financially, captives are also undiversified from their parent company as they share a linear relationship- when the parent company is struggling financially, so is the captive. In traditional insurance, if the parent company is experiencing financial difficulty, their insurance policies are not threatened as the insurer is seperate from the insured. In the event of a group captive that insures against tax rulings, a weakness could be the systemic risk associated with tax rulings. If many insureds in a group captive are adversely affected by a tax ruling, the captive may not be adequately prepared to handle the volume of losses.

With business intelligence and analytics increasingly bleeding into into the insurance pricing and other operations, there are many opportunities in developing a captive. In an effort to consolidate and leverage data, companies could form group captives. This partnership and data sharing can lead to a greater understanding of the risks, more accurate predictions of the future, and ultimately improved underwriting. The partnership can also discuss and share best practices, improving claims handling and other operational processes. Partnering can offset and even exceed the weakness of decreased resources of captives compared to traditional insurers as previously mentioned. Specifically with climate change captives, there are opportunities to partner with climate change organizations to mitigate the adverse effects of climate change and better understand the risks to improve underwriting. This combining of resources would more closely align the captive's interests with that of these climate change organizations, creating value for both parties. In terms of captives for a tax ruling exposures, if the captive insures multiple companies then these companies could pool employee resources in the event of an adverse tax ruling. In this event, since a tax ruling would affect any company involved, employees of each company participating in the captive could work together for mutual benefit in an effort to assess the impact of the tax ruling.

Captive insurance solutions have been increasingly scrutinized as a tax shelter, which has lead to increased discussion on their operations. The increase of conversation over the extent to which captives should be allowed to operate presents as a significant threat to this risk financing solution. Political legislation has the power to drastically limit what exposures captives can insure and how they are allowed to operate, reducing their efficiency and economic benefit to the parent company. Climate change, given its controversial nature, is particularly at risk to changing political legislation. If legislation were to determine that climate change is obsolete, it would not be considered an insurable risk, therefore threatening its place in captive insurance. For tax, an increasingly regulated or controlled tax environment could make tax ruling risks harder to insure through a captive as they may have a larger impact. Secondly, a tax ruling that declares payments to a captive as non-deductible, captives would lose a major current benefit.

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Appalachian STATE UNIVERSITY

APPALACHIAN STATE:
Christian Ferrara and Charles Fisher

Alternative Risk Solutions: Captive Insurance for Cyber and Supply Chain Risk

Alternative Risk Solutions:

Captive Insurance for Cyber and Supply Chain Risk

In recent years, information technology and internet usage have become critical for firm survival and expansion in this global economy. The prevalence of data exchanges that occur in various business functions, from supply chain management to financial records, have directly created cyber exposures within a business. Additionally, firms are increasingly reliant on foreign vendors from all over the world, which has created significant supply chain exposures. In comparison to many mature risks, cyber and supply chain risks have created market inefficiencies with regards to pricing and coverage. Due to their complex nature and lack of historical data, cyber and supply chain risks are; not only difficult to price, but the rate models used for each risk are hard to predict.

Cyber Risk

The importance of cyber risk management has increased substantially in recent years, primarily due to the abundance of risks embedded in various platforms throughout a business. As computer information systems become more prolific in business functions, companies from various industries must develop methods to deal with cyber loss exposures. While a company in the transportation field may not appear to share much in common with a medical practice, each example likely faces the same exposures, such as ransomware, third-party damages, or cyber extortion. From the perspective of an information technology department, cyber risk introduces the chance for both financial and reputational losses. In addition to the loss exposures directly relating to business functions, cyber security also puts many individuals at risk. For example, an individual’s personal or work-related phone, computer or tablet may contain sensitive financial or personal information, which are very enticing to hackers. In many instances losses resulting from cyber liability are substantial and can greatly impact business operations if a comprehensive insurance program is not in place.

From an academic perspective, the proper way to handle a company's low-frequency, high-severity loss exposures would be to transfer these potential risks to the commercial market. However, in this case there is very limited historical loss data, as cyber liability is an emerging new risk within the market. In turn, this has caused providers in the commercial market to adopt a conservative pricing and coverage model. However, a major advantage possessed by commercial carriers is that they are well-versed in dealing with various cyber losses and managing claims, as opposed to a newly formed captive. Additionally, the captive will likely require substantial capital, as premiums collected will be unable to support the level of coverage. Due to these disadvantages, it is suggested that a captive be used to reinsure a percentage, such as 10%, of the cyber liability. This arrangement would allow for limited financial exposure and still permit the insured to benefit from reduced premiums and the claims expertise of the carrier. Another benefit stems from the captive's ability to offer a cost-effective means of providing coverage for exclusions.

The adoption of a captive arrangement would grant the business a means of controlling costs, as risk managers will now be able to see and respond to loss history or individual trends within the industry. Overtime the price of coverage will stabilize as the amount of historical data increases and the insured develops better control practices. In the case of a large organization that contains multiple subsidiaries, allocating risk and allowing each to pay a premium could incentivize them to implement direct risk management and IT controls as needed.

Supply Chain Risk

With an economy that has transitioned from mostly domestic production and distribution to now a global model, supply chain management has become a central aspect of most businesses. Economic globalization has created numerous opportunities for manufacturers to increase profits through expansion into previously untapped markets. However, while globalization has brought about many advantages for the supply chains of businesses, it has also introduced numerous risks, such as reliance placed on third-parties, that previously were not a concern.

As the risk of intense natural catastrophes and extreme weather events, which are ranked first and second in the *Global Risks Report 2018*, supply chain risks are exacerbated. However, business interruption can manifest due to a number of non-physical events, such as cybersecurity breaches, labor disputes or even the financial condition of third-parties. With regards to non-physical events, cybersecurity is arguably the area of most vulnerability to all businesses due to the sheer size of exposure. Previously, we have discussed the direct exposures that a business may face with cyber risks, but this is magnified when a supply chain is incorporated. Businesses now must consider the security measures of their suppliers and any ancillary businesses. In addition, the financial standing of each supplier in a supply chain can also present risk to a company. An entire supply chain is not created overnight, it can take countless years to develop relationships with suppliers. However, if performance of the supplier begins to decline, resulting in a shortage in products or a delay in delivery, the company will likely have little recourse of action as they cannot easily find a replacement.

Currently, there are a number of companies that offer insurance coverage for supply chains, but this presents many issues for the insurer. For example, it is very difficult to underwrite a policy due to the potential size of exposures and the specialized nature of a supply chain. In addition, the lack of historical data and research surrounding supply chain loss exposures also poses a challenge to underwriters. Without relevant data and a predictable model to follow, the profitability of covering these risks becomes uncertain. Studies, such as the *Global Risks Report 2018*, suggest that this unpredictability will only become exacerbated as the potential for future losses increases. The challenges surrounding traditional insurance coverage are also extended to the potential insureds. The first issue is that since a supply chain can become very complex and specialized, insurers are likely to impose some exclusions that must be purchased back for coverage. As an answer to this, a number of insurers do offer coverage under an "all risks" cover, but this will also cause premiums to increase. In this instance, a more cost-effective strategy could be to purchase back any exclusions through a captive instead of through a commercial policy.

The main advantage of forming a captive comes from the inherent complex nature of a supply chain. Since the company forming the captive will have a direct knowledge and experience with their own loss exposures, as well as those caused by suppliers, they are better able to gauge and price losses. By using this knowledge, a business could begin placing a small portion of risk, such as 10%, within a captive and leave the remaining coverage with a traditional insurer. This measure would allow for both the insured and insurer to develop a better understanding of the risks faced and thus reduce costs over time. Another strategy would be to have the captive write an excess policy and reinsure the business to the reinsurance markets, which provides the insured with a better understanding of how to underwrite their risks. By starting out with a lower percentage of risk placed in a captive, the insured will have limited financial exposure, while still being able to benefit from the captive arrangement. The formation of a captive could also serve as financial incentive for the parent company to become more vigilant in preventing losses and developing better strategies to reduce risk. For example, through the inclusion of third-parties, the business could use the captive as a method for dispersing risk and reducing costs pretraining to premiums. The inherent advantages of a captive arrangement are that the business is able to take control of their losses, create their own coverage form and set pricing guidelines. By using this cost-of-risk-allocation, both the business and any affiliates are financially motivated to create a consciousness of accountability.

Conclusion

Overall, using a captive as a sole means to insure cyber liability would be impractical in many cases as the amount of capital needed is far greater than the benefit generated through reduced premiums. Instead, by placing coverage with a captive in conjunction with commercial carriers, the business is able to capitalize on a reduction in premiums and the carrier's expertise with claims management. With regards to supply chain risk, a captive would be most advantageous as a method to purchase back exclusions and increase accountability within the supply chain. However, the business must account for the large amount of capital needed to fund a captive in most cases, which is due to the potential for substantial losses within a supply chain. In conclusion, the inherent difficulties of these new and emerging risks make them promising candidates for a captive arrangement, but also adds to the uncertainty of the risk landscape.