FALL 2019
White Paper Contest Winners

1st Place:
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#MeToo Movement

2nd Place:
Trey Kolenda
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Cannabis

3rd Place:
Jose Ricardo Melchor
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Climate Change
THE #METOO MOVEMENT AND ITS IMPLICATIONS

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December 8, 2019
Introduction

Back in the fall of 2017, in what is known as the "tweet heard around the world," #MeToo went viral. What started as a simple Twitter hashtag to support and stand with the victims of sexual harassment at the hands of producer Harvey Weinstein turned into a phenomenon amassing over 19 million tweets in just one year (Leopold, Lambert, Ogunyomi, & Bell, 2019). People from all walks of life began to step forward with their experiences of sexual harassment, opening the doors for a much larger discussion.

The #MeToo movement has impacted not only the lives of individuals but also the excess and surplus lines industry (E&S). Carriers bear part of the cost when companies fail to meet federal regulations on sexual harassment in the workplace. The U.S. Equal Employment Opportunity Commission (EEOC) defines sexual harassment as the following:

Unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature constitutes sexual harassment when submission to or rejection of this conduct explicitly or implicitly affects an individual's employment, unreasonably interferes with an individual's work performance or creates an intimidating, hostile or offensive work environment (EEOC, n.d.).

In general, any case of unwelcome sexual activity constitutes sexual harassment, which violates Title VII of the Civil Rights Act of 1964 (EEOC, n.d.). The #MeToo movement has made it clear that breaches of this law are more common than perhaps initially believed and that companies face unexpected, previously unknown exposure. For example, in 2017, Susan Fowler, a former software engineer at Uber, posted her
accounts of the sexism and sexual harassment she encountered at Uber. In response, the public made #DeleteUber go viral, once again showing the power of social media. Due to the backlash and a series of other scandals, Uber's CEO and co-founder, Travis Kalanick, resigned from his position. To prevent further conflict, Uber opened a formal investigation into the allegations and provided an anonymous hotline for employees to report cases of sexual harassment. Over 200 complaints were called into the hotline resulting in the firing of 20 employees (Leopold et al., 2019). From one allegation, Uber was exposed to several risks, each of which comes with its own cost(s). Most companies have some property and casualty insurance policy in place, but due to the unusual behavior and variety of the risks associated with the #MeToo movement, admitted line policies would not provide coverage. Instead, businesses turn to the E&S lines to address these exposures and help share the brunt of any costs.

The current E&S policies which cover some of the risks associated with the #MeToo movement are the following:

- Directors and officers liability insurance (D&O) - protects the business director's assets in the event of a lawsuit due to sexual harassment allegations.
- Employment practice liability insurance (EPLI) - protects the company as a whole, specifically against costs of lawsuits for improperly protecting employees.
- General liability insurance (GL) - covers physical harm such as assault, battery, and molestation

With the seeming abundant prevalence of sexual harassment claims reported in the media, these policies will likely become important in dealing with the newly emerging risks. The #MeToo movement has had two significant impacts on the E&S
lines industry: a potential increase in claim severity and frequency and the growth of reputation risk. However, while intimidating, these challenges also come with opportunities in risk management and policy innovation.

**Claim Severity and Frequency**

With nearly 20 million tweets using #MeToo in the first year of the movement alone, an assumption can be made that a shift would occur in the experience of sexual harassment claims. A sense of increased empowerment and safety may rightfully cause more people to report sexual harassment in the workplace and in many cases, lead to a lawsuit. Since the three primary E&S coverages focus on costs arising from litigation, the industry would likely experience an increase in claim frequency and severity. While increases in frequency and severity are not ideal for insurers, they can present an opportunity for risk mitigation. The examples and consequences of sexual harassment in the media have already heightened awareness among the public. Insurers that push for companies to provide more comprehensive sexual harassment education and prevention methods during this time of receptiveness will likely mitigate future increases in frequency.

**The Challenge**

The rise of the #MeToo movement will potentially result in an increase in claim frequency and severity as more people feel empowered to fight sexual harassment by suing their employer. To pursue legal action, claimants must first file charges with a government agency such as the EEOC or their state’s fair employment practices agency. The agencies then either grant permission to sue or deny the request (Equal
Rights Advocates, n.d.). As displayed in Figure 1, there was a sharp increase in sexual harassment claims to the EEOC in the fiscal year 2018, which corresponds to the start of the #MeToo movement in October 2017. In the same year, employers paid $56.6 million in monetary benefits to claimants, excluding benefits obtained through litigation, which is a 22.2% increase from the previous year. Even though these numbers are not directly related to the sexual harassment claims D&O, EPLI, and GL carriers receive, they provide a general idea on the behavior of claims: frequency and severity both increased since the start of the movement.

**Figure 1: EEOC Sexual Harassment Data (U.S. Equal Employment Opportunity Commission, 2018)**
*Does not include monetary benefits obtained through litigation*
**FYXX represents the 12 months ending September 20th, 2XX**

**The Opportunity**

Despite the potential increase in claim frequency, there is an opportunity to mitigate this risk through education. If employees have a full understanding of what constitutes sexual harassment, the assumption is that claims would decrease in frequency. However, most companies already provide sexual harassment training to employees, so what makes it different now? The publicity surrounding the #MeToo movement has created a more receptive audience. In a study conducted by the
Women's Media Center, media coverage of sexual assault and harassment was 30 percent higher ten months after the start of the movement than it was at the beginning (2018). More frequent coverage increases awareness as to what is acceptable behavior in the workplace and the consequences of workplace misconduct. Seeing real examples of sexual harassment cases serves to reemphasize this point. Behaviors in the workplace have already begun to change in reaction to the #MeToo movement. In 2018, 60 percent of male managers, compared to 28 percent the year prior, reported feeling uncomfortable mentoring, working alone, or socializing with female coworkers (Lean In, 2018). The example illustrates how individuals are now cautious to compensate for the previous flippancy in regards to sexual harassment. While far from perfect, the hyper-awareness of how one interacts with colleagues in the workplace demonstrates the changes occurring in behavior and the willingness to do so.

Insurers should take advantage of this period of openness and incentivize companies to provide more comprehensive sexual harassment training. Insureds should start by renewing employee's training. Currently, it is common practice to conduct training once a year, but it could prove to be beneficial to hold smaller, more intensive sessions throughout the year. In addition, training needs to be extended to all employees, including managers and executives. A study from Cornell University found that only 62 percent of executives undergo any training (Boyle & Cucchiara, 2018). Considering that several sexual harassment cases are the result of an unequal distribution of power, this demographic should receive equal training. Lastly, companies have begun incorporating bystander intervention training into their lessons. In many situations, a bystander speaking up in an instance of harassment can effectively diffuse
a situation (Boyle & Cucchiara, 2018). Implementing any one of the above ideas could significantly decrease the frequency of sexual harassment claims. In order to encourage the implementation of these methods, E&S carriers must provide incentives. The most straightforward option would be to offer a discount on D&O, EPLI, and GL insurance premiums if select methods are utilized. However, it is done, increasing education of sexual harassment has the potential to decrease or even stop the rise in claim frequency.

Reputation Risk

One of the significant implications of the #MeToo movement is the loss of reputation for companies. Here, reputation is defined as the beliefs and judgments about a company held by the general public (Clardy, 2012). In the context of insurance, this is generally referred to as reputation risk. While the D&O, EPLI, and GL insurance all provide coverage for assets and losses due to lawsuits, they do not protect against reputational losses, partly due to the difficulty in quantifying this type of risk. However, there exists the potential for reputation insurance/protection, and, if appropriately incorporated into D&O, EPLI, and general liability insurance, it can be a great source of innovation in the E&S industry.

The Challenge

Reputational damage to organizations in any setting presents as a significant risk, but this is especially true for sexual harassment allegations; thus, creating an opening in the market for this relatively new type of coverage. Broadening the scope of discussion from strictly sexual harassment, exposure to reputational risk for companies
is more significant than perhaps imagined. In a study conducted by Oxford Metrica, the losses attributed to reputationally damaging events involving Global 1000 companies were examined over five years. From Figure 2, it can be seen that over five years, roughly 80% of companies experienced at least one loss of 20% or more due to the effects of negative reputation (Oxford Metrica, 2011). The existence of reputation risk has been established for general cases, but looking more closely at the impacts of #MeToo suggests a similar pattern.

![Figure 2: Five Year Study of Global 1000 Company Losses (Oxford Metrica, 2011)](image)

The financial consequences of reputation risk for sexual harassment can be harder to quantify due to the narrow nature of the topic. In the case of Susan Fowler's allegations, research found that Uber lost 15 percent of the ride-sharing market to Lyft, its competitor (Leopold et al., 2019). For a market as big as ride-sharing, this was a significant loss to Uber. Furthermore, while the three insurance products cover more tangible losses related to Fowler's allegations, no stipulation would protect Uber from a drop in share values despite its correlation to sexual harassment. To prevent any further decline in market shares, Uber was left with the challenge of how to regain the public's trust and goodwill. Current strategy is to hire a public relations firm or to assign an
internal team to focus on crisis management and the rehabilitation of company reputation—all of which have associated costs. A company naturally wants to be protected from all these threats, but the wholesale and specialty market is not currently equipped to handle reputation risk.

The Opportunity

By examining how reputation risk insurance functions, features can be borrowed to create policy add-ons for the existing three insurance products covered in this paper. Reputation risk insurance is still relatively new, and as of 2015, only five companies (Allianz, Chartis, Munich Re, Kiln, and Zurich) offered standalone policies (Clardy, 2012). The plans vary widely and cover different losses associated with reputation risk.

Of the five existing policies, coverage is generally confined to two approaches: crisis management and lost profits (Clardy, 2012). For the first approach, insurers focus on the costs associated with repairing an insured's reputation. For example, Zurich, Chartis, and Allianz all offer policies that cover the costs of PR consulting, advertising, and other "brand restoration" expenses, with limits ranging from $10 to $100 million (Clardy, 2012). Most of the insurance companies that provide reputation risk insurance specify which PR firms are eligible providers. By using companies already trusted to do the job, the insurers further mitigate risk.

The second approach indemnifies losses in revenue due to a reputationally damaging event in the effort to provide short-term liquidity to the insured (Clardy, 2012). The sum provided can then be used for a PR firm if deemed fit by the insured but is not limited to this use. The flexibility this option offers is appealing, but the interpretation of a loss in revenue could prove to be challenging.
Both coverage options have stringent definitions of what is considered a trigger for coverage. An excellent example of how in-depth the policy language can be is Zurich's "Brand Assurance" policy, as shown in Table 1. The plan establishes what perils are covered when these perils are considered to cause adverse publicity, the definition of adverse publicity, and the quantification of a financial loss. By explicitly defining each term, Zurich and other companies tightly control what is being covered. These same ideas can be applied to the creation of add-on insurance coverage for existing policies.

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crisis Event</td>
<td>One of 19 named perils</td>
</tr>
<tr>
<td>Trigger of Coverage</td>
<td>Event has led, or is reasonably likely to lead, to adverse publicity within 60 days after commencement of the crisis event</td>
</tr>
<tr>
<td>Adverse Publicity</td>
<td>The reporting of a crisis event in at least two high impact media outlets [as listed in the policy] that specifically names the insured and is reasonably likely to cause a financial loss</td>
</tr>
<tr>
<td>Financial Loss</td>
<td>(1) a drop in revenues by at least 20 percent, (2) a reduction in the price per share of at least 20 percent, (3) loss of customers who represent at least 20 percent of the insured's gross annual revenues, or (4) the loss of suppliers whose input is critical in the production/provision of at least 20 percent of the insured's gross revenues.</td>
</tr>
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Table 1: Zurich's Brand Assurance Policy Terms (Clardy, 2012)

Instead of creating entirely new policies to address the impacts of the #MeToo movement, the E&S industry can create add-ons that apply to sexual harassment for D&O, EPLI, and general liability insurance. Of the two coverages commonly offered, one focusing on crisis management and the other on loss in revenue, indemnifying the costs of restoring company reputation makes the most sense to offer. The costs associated with hiring public relations firms are much less subjective compared to a loss in profits making it easier to price. Besides, specifying eligible crisis management firms allows providers to exercise more control over loss amounts since they can select companies with costs and fee structures tailored to their budgets. Some firms may even offer discounted rates to carriers that recommend their company to insureds.
The policy add-ons would be very similar between the three different coverages with some slight changes. Using Table 1 as a reference, the defined crisis event for an add-on to D&O would be a sexual harassment allegation or lawsuit against the specific director listed in the policy while EPLI and general liability would broaden this definition to anyone in the company. Also, the ways the hired PR firm may be used will vary depending on whether the focus is on the reputation of a CEO or the company as a whole. Similar to the standalone policies, the add-on coverages should include pre-selected PR firms that are already vetted and trusted, much as casualty carriers establish panel counsel for litigation. As for the quantification of loss, this will look very different between D&O and the other two coverages. With EPLI and general liability, a loss can follow the guidelines already laid out by existing policies; however, this will have to be more nuanced for D&O. Since D&O focuses on the individual rather than the whole business, a loss will perhaps be based on personal assets or the loss of one's job. Engineering an add-on coverage for sexual harassment in the workplace will require creativity. Still, if done right, it could lead to additional sources of revenue to the wholesale and specialty market.

Conclusion

There are two predominant impacts that the #MeToo movement has had on the E&S lines industry—the increase in claim frequency and severity, as well as the prevalence of reputation risk. These issues have created a challenge for insurers; however, they also present opportunities for risk management and policy innovation. Insurers have the chance to be pioneers in the #MeToo movement by developing
policies and services that do not merely react to sexual harassment but potentially prevent it. Applying pressure to insureds to establish better practices not only improves the insurer's bottom line but also goes toward creating a safer work environment for all. Hopefully, one day #MeToo will be irrelevant, but until that day arrives, wholesale, specialty, and surplus lines industry will be there to handle any risk.
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Insurability of Cannabis
Why Carriers Can Capitalize on The Cannabis Craze

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I. Introduction

Since inception, cannabis has long been a topic of controversy. With strong supporters on both sides of the argument today, the battle between the legalization of cannabis has never been stronger. However, in the past several years, we have begun to see the legalization, decriminalization, and medical implementation of cannabis across many states. The trend of legalization looks as if it is going to continue and insurers need to have a plan in place to respond. In order to take advantage of the booming cannabis industry, insurers must fully understand the current and future state of it. This paper will first define the current insurability of the industry. Second, it will identify the loss exposures at the center of marijuana businesses. Next, it will highlight current coverage options available in the marketplace. Then, it will explain regulatory and industry developments helping to improve the insurability of cannabis producers and retailers. These sections will explain both the pros and cons of insuring cannabis (as both sides are essential in truly understanding the insurability of the industry) to prove that insurance carriers will benefit from offering product lines in this field.

II. Current Status of Cannabis Industry

First, insurers must understand the current insurability status of the marijuana industry. There is criticism on both sides of the industry, some in favor of insuring marijuana companies, and others in favor of avoiding them completely. It is important to recognize arguments from both sides of the conversation before an insurer ultimately decides if they want to insure a marijuana company or not. Some current positives of the marijuana industry include large growth and extensive insurance needs, offering a great source for new premiums. In fact, 11 states and Washington D.C. have now legalized marijuana for recreational use for adults over 21,
and 33 states have legalized medical marijuana (Gould, 2019). The break-down of these states can be seen in the map below.

(Shayanne Gal/Business Insider)

Due to the expanding participation of states, the U.S. market for legal cannabis exceeded $10 billion in 2018 and is expected to see annual growth of more than 28% (Concord Law School, 2019). The industry could potentially provide half a million full-time jobs by 2022 and there were already between 20,000 and 28,000 cannabis businesses in operation in 2017 (Concord Law School, 2019). Like any business, the companies have a wide variety of insurance needs including the typical property, general liability, and product liability coverages. This would bring many new premiums to carriers and help a rapidly growing industry continue with great momentum.
However, on the flip side of the argument, the cannabis industry changing so rapidly doesn’t quite align with the much slower-adapting insurance industry. Insurers are struggling to keep up with new state legislation and filling in the gaps between federal and state laws. Since marijuana is still illegal at the federal level under the Controlled Substances Act of 1970, many financial institutions, including many insurers, refuse to work with marijuana-related businesses (A.M. Best, 2019). There is also a reputational risk for carriers as marijuana has been proven to cause several harmful health conditions upon use. Some health issues include respiratory disease, mental health issues, substance abuse, and cognitive impairments (Sirota, 2019). These concerns pose both legal and ethical dilemmas for insurers that are very sensitive and potentially dangerous. Insurers need to monitor these concerns carefully to ensure the potential economic gains are worth the possible legislation headache and reputational risk.

III. Loss Exposures

Insurers must understand and fully evaluate the main loss exposures that accompany insuring a marijuana business. Firstly, the marijuana plant itself needs protection from losses such as fire. California is the leader in both the growing and selling of cannabis in the United States, recording approximately $2 billion in retail sales in 2018 (Hasse, 2019). However, about 8.8 million acres of land in California burned in 2018 due to wildfires (NIFC, 2019). Thus, the threat of the plants burning in California is becoming increasingly more concerning and poses a huge loss exposure. The value of the marijuana plants varies as well, similar to the prices of commodities in the United States. This poses difficulty for underwriters as the actual price of the marijuana fluctuates due to supply and demand, yields, and seasonality (Mootz and Horst, 2019).
Insurers must also recognize the increased risk of crime that comes with a marijuana business over other types of businesses. Since many financial institutions do not support marijuana, retailers tend to have a lot of cash on hand. This results in higher employee-related theft and makes cannabis retailers a more desirable target for organized crime (Mootz and Horst, 2019). Also, since marijuana is not legal at the federal level, attempts of robbery for retailers’ inventory become much more likely.

General liability exposures are heightened in both frequency and severity when it comes to cannabis. Studies have shown an increase in worker’s compensation claims due to misuse of the products by employees at the workplace. Greater losses due to operations have also been recorded as growers use a lot of CO2 in greenhouses and butane gas in the manufacturing of cannabis oils (Sirota, 2019). An explosion or fire from these operations could harm inventory, employees, and cause property damage to both the insured and neighboring businesses.

Finally, there are increased product liability loss exposures for contaminated products and accompanying negative health conditions due to the use of cannabis (Sirota, 2019). Products liability is arguably the most concerning loss exposure for insurers as it contains very expensive litigation between businesses and consumers. One key concern is that marijuana can be contaminated by fertilizers or pesticides and cause bodily injury damage. There have been several lawsuits regarding contamination of cannabis, including a well-publicized LivWell case in 2015. Two consumers claimed LivWell, a marijuana dispensary and grow house, sold them marijuana contaminated by a pesticide called Eagle 20 that caused bodily injury damage (Stewart et al., 2019). The case was ultimately dismissed as there was no evidence the pesticide caused “Actual injury to any consumer.” There have been several other large lawsuits against cannabis companies, the overwhelming majority of which have also been dismissed (Stewart et al, 2019).
Courts seem to be on the side of the business and insurer at this point in time, however, insurers can still face costly litigation for product liability cases. Thus, product liability has remained a focal point for underwriters and insurers when deciding whether or not to insure a cannabis company.

All of these loss exposures combine to create a much riskier business and therefore a more complicated and extensive underwriting process. Simply from the nature of the product, there are many more loss exposures for a marijuana business and a lot of the common loss exposures such as property loss, general liability, and product liability become even more risky too. This is not to say that the cannabis industry is uninsurable, however, these loss exposures are to be taken seriously and considered very carefully by insurers before writing a policy.

IV. Current Coverage

In November 2017, California approved the first insurance company to cover the state’s marijuana industry (Concord Law School, 2019). The insurance company, Golden Bear Insurance, now offers policies covering general liability, property damage, crime, and product liability to licensed cannabis businesses in the state. Current coverage options for cannabis businesses across the United States, however, are limited. With the insurance industry divided on the profitability of the cannabis field, businesses struggle to get adequate coverage for their exposures. Insurers that are currently entering the market are offering basic policies. These policies include commercial general liability, property liability, and product liability, all with limits of $1 million per occurrence and $2 million aggregate (Harkonnen and Alden, 2019). However, A.M. Best has warned that these limits are not enough for many marijuana business owners and suggested higher aggregate limits. The main reasons for these low limits include the
many loss exposures (explained in the previous section) and the difficulty of carriers to find reinsurers to back their policies. Finding reinsurers is especially difficult for small insurance companies who have reported reinsurers stating, “We’re not going to offer reinsurance until the federal rules are worked out” (Jergler, 2019). On top of the low limits, many insurers are using endorsements in their policies that void their “duty to defend” as carriers fear expensive litigation. These low limits and endorsements reflect the industry’s fear of large cannabis-related losses, even including those insurers who are currently offering coverage.

Despite the fear and many policy provisions, the claims experience thus far for the cannabis insurance market is encouraging. CEO of Topa Insurance Co., John Donahue, shared that he was very optimistic about his claim experience and that it was performing better than some of their other lines of business (Jergler, 2019). Topa Insurance Co. offers cannabis products in more than a dozen states and has reported that losses for product liability and bodily injury were much lower than expected. Alongside Donahue is Ian Stewart, chair on the cannabis law practice team for Crouse and Associates. Stewart seconds Donahue’s sentiment toward better-than-expected claims and stated that “[cannabis] lawsuits are not nearly as prevalent in terms of the number and severity that I think people expected two years ago, which I think is good news for the industry” (Jergler, 2019). Although it is still early, these results are exciting for carriers and inspiring for the insurability of cannabis.

V. Developments Improving Insurability

Finally, insurers need to get involved in regulatory and industry developments that will help aid the insurability of marijuana producers and retailers. This cooperation between state legislation and insurers is a key element to the insurability of this industry as the two parties play
vital roles in the economic success of the other. A 2019 model showed that the current trend of cannabis legalization has increased the projected marijuana revenue to $22 billion by 2022 (A.M. Best, 2019).

![Projected Growth of Marijuana Revenue, 2016-2022](image)

As states continue to legalize recreational and medical marijuana use and revenues continue to rise, insurers need to stay involved with regulators as their legalization will drive new cannabis businesses and generate greater insurance needs. Providing custom cannabis product offerings by state, and in some instances, by city, can give carriers a great competitive advantage and would further drive growth in the industry. One recent development, the Secure and Fair Enforcement (SAFE) Banking Act, was introduced in March 2019 to protect banks and their employees from liability for prosecution dealing with cannabis companies. This bill would enable cannabis companies to do business with banks, allowing for deposits, loans, and transactional security, limiting the amount of cash on hand and subsequently lowering the probability of crime losses (Jergler, 2019). As of September 25, 2019, the bill has passed through
the House of Representatives and is awaiting a vote from the Senate. Seeing a bill directly aiding cannabis companies’ mitigation of risk is encouraging and is likely the first of many more legislative policies to come.

On top of regulatory development, insurers are also working directly with cannabis businesses to mitigate loss exposures. Commercial carriers across the country are offering “pure-play” cannabis insurance coverage. This coverage is unique to the cannabis industry and is helping uninsured marijuana businesses in securing adequate policies (A.M. Best, 2019). Insurers are also helping marijuana businesses improve their risk management practices. For example, the implementation of both interior and exterior on-site monitoring for marijuana facilities. Constant surveillance, as well as alarms and panic buttons, are being used to prevent theft and vandalism (A.M. Best, 2019). Carriers are also recommending that companies provide vault storage for finished stock, bulletproof extraction rooms, fire suppression systems, and cross capture ventilation. Even something as simple as helping a dispensary obtain a license or permit can make all the difference in an insurer’s approval of an application says Chris Boden, the cannabis team leader at Crous and Associates (Jergler, 2019).

The success of the insurers, regulators, and marijuana businesses attempt to increase the insurability of the industry is heavily interdependent, and thus, the three parties working together is especially crucial. The development of both regulatory and industry practices is steadily improving, and as a result, marijuana businesses are becoming increasingly more insurable.

VI. Conclusion

The controversy of cannabis is no stranger to insurers and marijuana businesses alike. There are strong opinions from regulation on both sides of the industry, but progress is being
made, seen by the 33 states that have legalized medical marijuana. Despite the controversy on the legality of the industry, insurers are continuing their efforts to support the cannabis industry and beginning to offer coverage in hopes of being a part of the industry’s rapidly increasing growth. It is crucial that insurers recognize the many loss exposures and both the frequency and severity of each exposure when underwriting new marijuana businesses. To combat the many exposures, improvements are being made through both regulatory and industry developments, increasing the insurability of the industry. Thus, if possible, insurers should take advantage and offer cannabis-specific products to gain a first-mover type of advantage and establish a share of the market before it is too late. There is still a long way to go, but the relationship between insurers, regulation, and marijuana businesses seems to be headed in the right direction, with rapid growth and development on the forefront.
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Climate Change:
Our new reality

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December 8, 2019
Introduction and background:

Climate change is no longer a subject for debate. What was once theoretical has come to be a reality and human actions have played an active role in this new reality. Despite some reporting to the contrary, this is the consensus of 97 percent of climate scientist, an overwhelming majority. This new reality is being felt across multiple industries, in almost every aspect of our lives. This includes the insurance industry. Climate change is the biggest emerging challenge that is facing the insurance industry, not just in the United States but around the world. It beats out other major challenges such as cyber security and terrorism. A survey of actuaries stated “When asked for a single emerging risk from the respondents’ top five, the results saw a major change, with Climate change advancing from a tie for fifth to a convincing lead at 22%.” (Rudolph, 2019).

Climate change is not a new subject for the insurance industry, Climate change has been a subject debated for the last 20 years. The effects and risk of climate change have been made more apparent after recent weather events and the amount of attention that it demands has increased in recent years. Hurricane Harvey, Hurricane Maria, and the California wildfires have shown the kind of threat that climate change truly possess. As catastrophic events such as hurricanes, wildfires, floods, and drought continue to increase in both strength and frequency, the standard lines markets will be hesitant to write coverage for these events. This will cause the Excess and Surplus Lines industry to help mitigate climate change worldwide. This will not be an easy task for reasons that will be explored in this research paper. Climate change holds an abundant almost innumerable amount of opportunities for the excess and surplus lines, but with these opportunities also comes enormous threats. This research paper will help explore both of
the above mentioned as well as potential strategies for the excess and surplus lines market to help mitigate the generational challenge that is climate change.

**Opportunities**

1. **Renewable Energy**

   The only way to combat climate change will be for the planet as a whole to transition away from fossil fuels and energy that is detrimental to the environment and invest and implement renewable energy as the main source of power. This will create a plethora of opportunities for the excess and surplus insurance market. The excess and surplus market will be perfect for these types of opportunities since non-admitted markets can benefit off of their advantages of regulations that they hold over the standard market. This mean that non-admitted markets will be able to adapt and to change with the new sector instead of waiting for approval from a third party. This will allow the excess and surplus market to write the specific type of coverage required from one company to another, making it possible for to tailor policies depending on the needs of the company. Renewable energy would be a net positive for the insurer since it both helps mitigate climate change in the future while creating new lines of business to diversify the portfolio of non-admitted carriers.

2. **Flood**

   The biggest opportunity for excess and surplus lines insurers, currently and for the foreseeable future will be flood insurance. Flood insurance offers a huge opportunity because of the uninsured population that currently exists is the United States. The American Housing Survey (AHS) found
that “… just over 1 in 10 homeowners have flood insurance nationally. But in cities that are more prone to flooding, such as Houston and Miami, the number is closer to 1 in 3.” (Strochak, Zhu, Goodman, 2018) These figures represent an enormous 67% of people that currently do not have insurance and need it and an additional 90% of people that may invest in the product if the trends continue to progress in the manner that they are. The Excess and Surplus lines industry is in a prime position to offer a better product than the current product offered by FEMA. The government currently only offers a maximum coverage of $250,000 for personal building and $100,000 coverage for personal belongings, both of these increase to $500,000 in respect to the commercial side.

The Excess and Surplus lines industry could approach this in two ways. The first way would be to offer insurers additional coverage on top of the one offered by FEMA; this would mainly be tailored to companies that have a large number of commercial buildings in known flood areas. This way if another catastrophe were to occur the company would have coverage on top of the one offered by FEMA. The second way to penetrate this market would be to offer a product that is tailored to individual homeowners, this product would be offered as an alternative to the government option and since Excess and Surplus lines industry operates as an non-admitted carrier it could be better suited for what the specific person requires. In order to appropriately price these products and prepare for the future the industry will need to account for the challenges surrounding climate change.

**Challenges with regards to climate change**

1. **Data and Data analytics**
The law of large numbers is a principle that many insurance companies rely upon. The general understanding is simple, the bigger your sample size the more accurate the average is, this means that a fair premium is paid and the probability of loses for a company can be accurately accounted for. Its simple data and predictive analytics in order for insurance companies to appropriately measure risk. Unfortunately, this is one of the biggest problems with climate change, the sample size is not only small but climate related events are hard if not impossible to predict. The sample size is only small not because it climate change events haven’t been accounted for in the past, but because of how hard the events themselves are to predict especially with the changing climate. Currently placing the data and producing models would be ineffective since the climate of 100 or even 30 years ago is not the same as today.

![Graph showing increasing weather-related catastrophes](image)

Source: © 2019 Munich Re, Geo Risks Research, NatCatSERVICE. As of March 2019 (Figure 1)

Figure 1 above shows exactly how weather-related catastrophes have been increasing over the past thirty years. This data clearly indicates that the frequency of weather-related catastrophes has increased, the data we need to find in the future is to determine at what rate and if there is any way
to predict the areas that will be affected. If pricing is based solely on these analytics, then insurance will be out of the price range for many markets around the world. This is not exclusive to areas around bodies of water as Hurricane Harvey demonstrated, building homes, business, and cities in know flood zones is a recipe for disaster and something that has already happened in many of the biggest cities around the globe. Therefore, figuring out how to appropriately and accurately utilize data to create models that account for climate change will be vital to accurately combat these weather-related events.

2. Severity and types of Losses

Losses caused by climate change can get very expensive very quickly, “The combined insurance losses from natural disasters in 2017 and 2018, meanwhile, were USD 219 billion, the highest-ever for a two-year period…” (Bevere, 2019). As shown by the statement of Mrs. Bevere, the losses caused by climate change are a huge burden for insurers to carry. As previously stated, this will cause insurance to be too expensive for most people as companies will have to account for the possibility of catastrophes happening at a more frequent rate. The reason being as mentioned in the opportunities section, climate change has the ability and fortitude to affect multiple lines of insurance from personal lines such as home, auto, life, and boat and in terms of commercial insurance lines affected would include, liability, property, workers compensation, and especially marine insurance.
Figure 2 helps to illustrate the rate in which losses from catastrophic events have been increasing in recent years also showing how unpredictable these events are. The biggest threat climate change poses to the industry as a whole is the fact that it will only get worse if the planet continuous to warm at its current speed. In an excerpt from the Insurance Journal it was stated that, “A 2018 report from the Intergovernmental Panel on Climate Change estimated that global economic damages by 2100 would reach $54 trillion with a 1.5-degrees Celsius of warming of the planet, $69 trillion with 2 degrees Celsius of warming and $551 trillion with 3.7 degrees Celsius of warming.”. The threat here is not only the amount of loss, but the fact that the insurance industry cannot prevent this from happening, this must be mitigated by laws and regulations. A threat that cannot be prevented by the industry is the biggest threat of all. The prevention of climate change may not be in the control of the industry, but the industry can develop creative ways to help mitigate the impacts it will have in the future.
Approaches to mitigate Climate Change

1. TRIPRA approach

The TRIPRA approach is in reference to the Terrorism Risk Insurance Program Reauthorization Act. This act was enacted by law after the attacks on 9/11 as a way to limit exposure to individual insurers and the insurance industry as whole. There are many provisions for the act to go into effect such as a triggering amount, and the insurance carrier’s deductible of their earned premium that must be paid before the federal program provides compensation. This framework could be used for weather related catastrophes. This would allow more viable options for insurers to offer to customers in both a cost effective way for the client as well as reduce the risk for each insurer, the more insurers that offer insurance for these types of events the smaller the risk that any one insurer would face. This is also effective for the government, since it will increase the amount of people that are protected from weather related catastrophic events. The big contingency in this approach is that it is dependent on the government to enact a similar act to mitigate the risk of climate change, just like they did for terrorism.

2. Parametric approach

A parametric approach is another effective way to insure against the risk of climate change. Parametric insurance is a unique way to transfer risk, since it is based upon an agreed upon index being met. As soon as this index is met, the insurer pays out an agreed amount sum of money to the insured. It is important to note that the payment amount and index is agreed upon, must be objective. This approach would be effective in mitigating losses that would arise from climate change. For example, for areas that are at risk of flooding, a parametric policy could be bought
that states that as soon as precipitation passes 24 inches in one day the policy be paid out. In the case of areas that may be safe from flooding but still face dangers from wind, a policy could be offered that set the triggering index at 75mph for wind speeds. Once the parameters are met the insured would receive payment form the insurer. Parametric insurance is also extremely convenient, since payout is based off an index the payout period is much quicker instead of the traditional system in which the insurer must wait for the insured to report their losses. Additionally, since the index would be verified through a third-party fraud would seize from being a risk. Parametric insurance is an emerging and innovative product that could prove to be vital for the excess and surplus insurance market and their ability to effectively insure climate change.

3. Stipulated Coverage

Climate change by nature is a high-risk line for insurers. In order to mitigate this, the excess and surplus insurance market will have to heavily stipulate coverage for this risk, to both protect form losses and provided fair and discounted rates to the insured. An insurer could stipulate that the insured must install flood gates in order to receive a discount on their policy. In areas where fire damages are more likely, a discount could be offered to insured that have an extensive irrigation system and have minimal trees and shrubs in the vicinity of their home. Stipulations could also serve as a way to positively impact climate change in the future. Insurance can be denied to companies that plan to build additional properties in flood prone areas and discounts can be offered if their CO2 emission are lowered from year to year. This helps not only the planet but the industry, reversing climate change might be impossible but mitigating the risk is in the reach of insurers.
Conclusion

Climate change is an issue that societies form every corner of the world will be dealing with for the foreseeable future. This present the excess and surplus insurance market an infinite amount of opportunities to offer coverage for people and companies alike. Improving modeling and predictive analytics will be vital in order to accurately measure exposure risks for climate change. The excess and surplus insurance market is in a prime position to understand these risks better and be the leaders in climate change and the renewable energy business that will be needed to combat it. Using this information will be crucial in furthering our understanding of how to mitigate this crisis. In conclusion, climate change is not a problem that can be solved by the excess and surplus insurance industry, but the industry can lead the way in mitigating this risk by implementing creative solutions such as parametric insurance and lobbying the government to do more to reduce the rate in which the earth is warming.
Works Cited


What We Know, https://whatweknow.aaas.org/get-the-facts/.