TO: Cybersecurity (EX) Task Force

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SUBJECT: Report on the Cybersecurity Insurance Coverage Supplement

The purpose of this report is to inform the Cybersecurity (EX) Task Force about the information filed by insurers in the Cybersecurity Insurance and Identity Theft Coverage Supplement (the Supplement) to the Property and Casualty Annual Statement for 2016.

Overview

Cybersecurity is crucial to effective and efficient operation of U.S. businesses. Cybersecurity breaches can cause a major drain on the U.S. economy. Insurers face cybersecurity risks in their daily operations as do banks and securities firms. The Financial Services Sector is perhaps the most under attack from cyber criminals. The reason for the attacks is multifaceted. Financial firms receive, maintain and store sensitive personal financial information from their customers. Insurers, in many cases, receive personal health information in addition to personal financial information. For insurers, information may be provided by policyholders or claimants. Cyber criminals are interested in this sensitive information as it can be used for financial gain by stealing a person's identity for fraudulent purposes. We know from observation of the dark web that personal health information is much more valuable these days than personal financial information. Nation states are also known to sponsor cyber-attacks for espionage or gaining access to corporate trade secrets and business processes. A growing area of concern is ransomware used to extort payments from compromised firms.

Insurers are selling cyber risk management services and cybersecurity insurance products to businesses and individuals. It is to gain information and understanding about the cybersecurity insurance markets that led regulators to design and implement the Supplement. The first year the Supplement was required to be filed was with the 2015 Annual Statement filed in April of 2016. The data filed provides some interesting results. This year insurers reported information on the 2016 calendar year results. Over 500 insurers have provided businesses and individuals with cybersecurity insurance, with the 75% of the insurers writing cybersecurity insurance as part of a

package policy. An overview shows a cybersecurity insurance market of roughly $1.8 billion in direct written premium for insurers required to file the Supplement. Insurers writing standalone cybersecurity insurance products reported approximately $921 million in direct written premium and those writing cybersecurity insurance as part of a package policy reported roughly $864 million in premium writings. The remainder of the report will provide figures filed for each category and explain assumptions used to arrive at the $ 1.8 billion in direct written premium by admitted insurers. It will also discuss the entities reporting data and how we dealt with the entities where data on package policies is missing from the data set.

Cybersecurity Insurance Coverage

The Supplement requires insurers to report the following information on standalone cybersecurity insurance policies:

- Number of claims reported (First Party & Third Party)
- Direct premiums written and earned
- Direct losses paid and incurred
- Adjusting and other expenses paid and incurred
- Defense and cost containment expenses paid and incurred
- Number of policies in-force (claims-made and occurrence)

The Supplement requires insurers to report the following information on cybersecurity insurance coverage sold as part of a package policy:

- Number of claims reported (First Party & Third Party)
- Direct premiums written and earned, if available or estimable
- Direct losses paid and incurred
- Adjusting and other expenses paid and incurred
- Defense and cost containment expenses paid and incurred
- Number of policies in-force (claims-made and occurrence)

Standalone Policies

Perhaps the most interesting information is the size of the standalone cybersecurity insurance marketplace. Insurers writing this coverage reported $920,712,006 in direct written premium spread among 42 insurer groups (128 individual insurers). Direct earned premium reported was $811,057,406. Having less earned premium than written premium is indicative of a growing market. The top ten insurers wrote 68.7% of total U.S. market with the top 20 writing 84.4% of the market. The standalone cybersecurity insurance written premium for 2016 has increased by 90.5% since last year. These figures show the market is growing and perhaps becoming more competitive since 2015.

Loss ratios for standalone cybersecurity insurance were all over the map ranging from zero to over 400%. This too was not overly surprising. The market for cybersecurity insurance products is a new one and it is one with an element of catastrophe exposure. A zero loss ratio might be indicative of sound underwriting, but it might also simply be luck in selecting businesses that did

not get hacked in 2016. The over 400% loss ratio occurred in two insurer groups with $2,174,874 and $645,203 respectively in direct written premium. Again, it could be indicative of poor underwriting or simply bad luck to insure a policyholder having a large breach in 2016.

To keep things in perspective, the reader should remember $1.8 billion in direct written premium is only a very small percentage of the $536[1] billion in net written premium reported by the property and casualty insurers for 2016. All of these writings are supported by $731[2] billion in policyholder surplus held by insurers.

Package Policies

The reported direct written premium for cybersecurity package policies totaled $434,475,892. However, 352 insurers of the 708 insurers reported no premiums, generally because they could not break out the premium change for the cybersecurity coverage from the remainder of the package policy. To arrive at a figure representing a complete market NAIC staff assumed the 352 insurers writing cybersecurity package policies where premiums were not reported would have reported premiums in the same ratio as those insurers reporting actual premiums.

The actual mathematical calculation to extrapolate the premium dollars not reported under package policies follows:

- 352 insurers of 708 insurers reported no premium, representing 49.7% of the insurer population.
- The inverse of 49.7% is 50.3%.
- Then divide the actual package premium of $434,475,892 by 50.3% to get $863,769,169**.**
- As a result, by extrapolation we estimate approximately $864 million was the direct written premium sold through package policies.

Thus, we wish to inform you $1,784,481,175is the reported and estimated total direct written premium for cybersecurity insurance coverage on a standalone and package policy basis for 2016 by insurers obligated to complete NAIC Financial Statements.

Surplus Lines Insurers

The reported information for admitted insurers is limited to only those insurers required to file a Property and Casualty Annual Statement with the NAIC. To evaluate this limitation, one must understand the types of insurers writing property and casualty business in the U.S. and whether each type is required to report information to U.S. regulators. With apologies to regulators who already understand what is said in this section, we believe it is important for readers not completely familiar with the U.S. regulatory framework to understand, from a state insurance regulators' perspective, the admitted and surplus lines markets.

[1] http://naic.org/documents/topic_insurance_industry_snapshots_2016_ye.pdf
[2] ibid

The U.S. regulatory system for property and casualty insurance views insurers as belonging in one of three classifications. They are: domestic, foreign and alien. A domestic insurer is one licensed or admitted in a state it selects to be its home state. A foreign insurer would be one licensed or admitted in a state that is domiciled in another state. An alien insurer is one domiciled in another country. Generally states insist insurers be licensed or admitted in the state as a prerequisite for selling property and casualty insurance products. However, state legislatures recognize not every person or business seeking coverage for unique risks can find it from a licensed or admitted insurer. Thus, state legislatures have allowed non-licensed insurers to write property and casualty business under certain circumstances. The insurers doing business as non-licensed or non-admitted insurers are known as surplus lines insurers. They serve as an alternative marketplace to provide coverage for unique exposures and often serve as a testing ground for product innovations before they become mainstream. Such is the case for cybersecurity insurance products. Offering coverage on a surplus lines basis allows the insurer greater freedom in pricing and does not require formal prior approval of contract language.

For the first time this year, we received information filed by surplus lines insurers. Surplus lines data received indicate premiums of $552,226,000 in cybersecurity standalone package policies in 2016. The surplus lines premium for cybersecurity package policies for 2016 is $156,285,000. The total written premium for both types of policies is $708,511,000.

The Overall Cybersecurity Insurance Market

For 2016, the total cybersecurity insurance market in the U.S. is $2.49 billion. This figure includes the standalone and package cybersecurity insurance premiums reported in the NAIC Finanacial Statements, an estimate of the missing package cybersecurity premiums where insurers were unable to separate cybersecurity premiums from the package premium and the information reported by surplus lines insurers.

Another interesting observation about the cybersecurity insurance policies sold on a standalone basis is most of the third party coverage is written on a claims-made basis. Approximately 98% of the policies were claims-made. From a solvency risk management perspective for insurers, the claims-made contract generally serves to limit exposure to the insurer compared to an occurrence policy by placing time limits on when the insured event must be reported to the insurer. While this is good for insurers, it is a coverage limitation from a policyholder perspective.

Identity Theft Coverage

From a market perspective, the year-end 2016 data clearly indicates that U.S. insurers' most common form of risk related to cybersecurity is in the form of identity theft coverage, where insurers wrote approximately 21.4 million policies including identity theft coverage as part of a package policy. This compares to only 278,334 policies that were stand-alone identity theft coverage.

From a risk perspective, the year-end 2016 data for identify theft coverage indicates the stand-alone premium on the 278,334 policies was $23.8 million, or approximately $86 per policy. The

year-end data for identity theft coverage shows reported package policy premiums of $502.9 million and 21,378,502 million sold to people, or approximately $24 per policy.

Caveats

When one uses data to gain information, it is important to understand its source, its attributes and its limitations. In last year's report surplus lines premium information was not included. This year we are happy to report that surplus lines premiums are included in this report.

What Others are Saying about the Cybersecurity Insurance Markets

"Cyber insurance is the fastest growing type of insurance in America."—Lanier Upshaw, Inc.

Cyber insurance is a potentially huge, but still largely untapped opportunity for insurers and reinsurers. We estimate that annual gross written premiums are set to grow from around $2.5 billion today to reach $7.5 billion by the end of the decade.—Pricewaterhousecoopers

"Cyber claims are high on the list in terms of a lot of changes going on in the marketplace," said David Bresnahan, executive vice president, casualty at Berkshire Hathaway Specialty Insurance. "Many excess and surplus carriers got into the cyber market, mainly capacity and excess, and now these carriers are being presented with their first claims, with some being pretty sizable. As a result, these carriers are taking a second look at their risk appetite as well as their comfort level in understanding cyber risk because prices are increasing."

"We expect worldwide spending on Cybersecurity products and services to eclipse $1 trillion for the five-year period from 2017 to 2021"—Steve Morgan, Founder and Editor-In-Chief at Cybersecurity Ventures

"Cyber insurance is a potentially huge, but still largely untapped, opportunity for insurers and reinsurers. We estimate that annual gross written premiums are set to increase from around $2.5 billion today to reach $7.5 billion by the end of the decade."—PwC Report—Insurance 2020 & beyond: Reaping the dividends of cyber resilience.

"Annual premium volume information about the US cyber-risk market is hard to come by, but in reviewing the market, we have concluded that the annual gross written premium may be as much as $4 billion (up from $3.25 billion in last year's report). Despite lower rates … amazing."—Richard S. Betterly, CMC, President, Betterley Risk Consultants, Inc. from Cyber/Privacy Insruance Market Survey—2017

"The cyber market is growing by double-digit figures year-on-year, and could reach $20 billion or more in the next 10 years. …fewer than 10% of companies are thought to purchase cyber insurance today."—Nigel Pearson, Global Head of Fidelity, Allianz Global Corporate & Specialty

Recommendations for the Working Group

NAIC staff recommends the Working Group take comments from interested parties on how the instructions or the format of the Supplement could be improved for future reports. Further staff

recommends requiring insurers to break out cybersecurity insurance premiums from the package policy premium in future reporting years.

Conclusion

This report summarizes some interesting findings. The overall U.S. market is roughly $2.49 billion. Having a time series will allow regulators to track market growth and pinpoint areas where further regulatory oversight is needed. Our first time series is a small one allowing us to compare 2015 and 2016 premium volume. The standalone cybersecurity products showed substantial growth (90.5%). We believe this is indicative of an evolving market where insurers are working closely with American businesses to identify, define, and protect against the risk of cybersecurity losses with greater precision than in the past.