
MEMORANDUM

TO: Innovation and Technology (EX) Task Force

FROM: Denise Matthews
Director, Data Coordination and Statistical Analysis

DATE: Dec. 4, 2020

SUBJECT: Report on the Cybersecurity Insurance and Identity Theft Coverage Supplement

The purpose of this report is to provide an understanding of the U.S. cybersecurity insurance market, which encompasses insurers domiciled in the U.S. and alien insurers that write the coverage.

Overview

Cybersecurity protection continues to be crucial to the effective and efficient operation of U.S. businesses. Insurers face cybersecurity risks in their daily operations, as do all firms in the financial sector. The reasons the financial services sector is susceptible to cyberthreats are multifaceted. Financial firms receive, maintain and store substantial amounts of personally identifiable information (PII); however, insurers, in many cases, receive personal health information in addition to personal financial information from both policyholders and claimants. In both cases, recent legislation is potentially expanding the definition of PII, adding to the risk associated with a cybersecurity event.

Health care breaches continue to grow each year.¹ Research indicates that personal health information continues to be more valuable to hackers than other types of financial records, such as credit cards. Personal health information generally provides more information regarding PII than a financial record. A report authored by Trustwave suggests that a health care record may be worth up to \$250 per record on the dark web; a credit card record holds a value of \$5.40.²

Ransomware attacks are on the rise and continue to be an area of concern. Research predicts that cybercriminals launch ransomware attacks on businesses every 11 seconds.³ Not surprising, ransomware was again widespread in 2019 and affected all business sectors.⁴

Breaches, malware, ransomware, and a variety of other types of cybersecurity risk and vulnerabilities are all reasons a business might want to consider buying cybersecurity insurance. Each year, the NAIC collects data about cybersecurity insurance. This year, 577 insurers submitted data for calendar year 2019 regarding cybersecurity insurance policies provided to businesses and individuals.

The data show a cybersecurity insurance market, including both U.S. domiciled insurers and alien surplus lines insurers writing business in the U.S., of roughly \$3.15 billion in direct written premiums, reflecting a slight decrease of 0.22% from the prior year. Insurers writing stand-alone cybersecurity insurance products reported approximately \$1.91 billion in direct written premiums, and those writing cybersecurity insurance as part of a package policy reported roughly \$1.24 billion in direct written premium.

The remainder of the report will provide more detail for each category and explain assumptions used to arrive at the \$2.26 billion in direct written premiums by U.S. domiciled insurers. This report will also discuss the entities' reporting data and the NAIC assumptions related to entities where data on package policies are missing from the data set.

¹ <https://www.securelink.com/blog/healthcare-data-new-prize-hackers/>

² Ibid.

³ <https://www.blackfog.com/the-state-of-ransomware-in-2020/>

⁴ Advisen Article, "Cyberthreats seen in first half of 2020 exceed all of 2019: CrowdStrike" Erin Ayers, Sept. 23, 2020.

Cybersecurity Insurance Coverage

The Supplement requires U.S. domiciled insurers to report the following information on stand-alone cybersecurity insurance policies and coverage sold as part of a package policy:

- Number of claims reported (first-party and 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).

It should be noted that insurers are only required to file direct premiums written and earned for cybersecurity insurance coverage sold as part of a package policy if it is available or estimable.

Stand-Alone Policies – U.S. Domiciled Insurers

Insurers writing this coverage reported \$1.26 billion in direct written premiums spread across 47 groups of insurers (136 individual insurers). Direct earned premiums reported were \$1.13 billion. The top 10 groups wrote almost 80% of the total U.S. market, with the top 20 writing slightly over 92% of the market (Exhibit 1). The stand-alone cybersecurity insurance direct written premiums for 2019 increased by 13.4% from the prior year. The total number of stand-alone policies reported in 2019 increased by 29.8% from the number written in 2018.

The top 20 groups that wrote stand-alone cyber insurance reported a direct loss ratio range of -0.3% to 99.3% in loss ratios. The 2018 average direct loss ratio for the top 20 writers of stand-alone cyber insurance was 34.5%. The 2019 average loss ratio increased to 48.2%.

Exhibit 1 presents the loss ratios for these insurer groups. It is important to note that the cybersecurity insurance market is still developing. Therefore, an element of catastrophe exposure exists. In a developing market, it is not surprising to see a wide range of loss ratios.

Exhibit 1 – Top 20 Groups Writing Stand-Alone Cyber Insurance by Direct Written Premium

Rank	Group Code	Group Name	Direct Written Premium	Loss Ratio (including DCC)	Market Share	Cumulative Market Share
1	968	AXA INS GRP	229,680,495	65.7%	18.2%	18.2%
2	12	AMERICAN INTL GRP	226,197,036	55.4%	17.9%	36.0%
3	3548	TRAVELERS GRP	144,024,469	34.1%	11.4%	47.4%
4	4942	BEAZLEY GRP	141,518,827	21.3%	11.2%	58.6%
5	158	FAIRFAX FIN GRP	65,007,279	51.6%	5.1%	63.8%
6	3416	AXIS CAPITAL GRP	49,609,908	11.8%	3.9%	67.7%
7	23	BCS INS GRP	44,651,402	39.7%	3.5%	71.2%
8	212	ZURICH INS GRP	43,672,159	86.9%	3.5%	74.7%
9	3098	TOKIO MARINE HOLDINGS INC GRP	35,169,690	19.0%	2.8%	77.4%
10	111	LIBERTY MUT GRP	29,661,573	49.8%	2.3%	79.8%
11	3219	SOMPO GRP	23,396,472	35.7%	1.8%	81.6%
12	4734	APOLLO GLOBAL MGMT GRP	19,367,914	0.9%	1.5%	83.2%
13	98	WR BERKLEY CORP GRP	17,381,688	2.8%	1.4%	84.5%
14	218	CNA INS GRP	16,028,070	33.0%	1.3%	85.8%
15	761	ALLIANZ INS GRP	15,088,635	0.0%	1.2%	87.0%
16	181	SWISS RE GRP	13,702,047	99.3%	1.1%	88.1%
17	4904	INTACT FINANCIAL GRP	13,039,856	-0.3%	1.0%	89.1%
18	501	ALLEGHANY GRP	12,864,916	42.9%	1.0%	90.1%
19	84	AMERICAN FINANCIAL GRP	12,569,504	33.2%	1.0%	91.1%
20	783	RLI INS GRP	12,245,502	1.1%	1.0%	92.1%

Package Policies

The reported direct written premiums for cybersecurity package policies totaled \$998.8 million, which is an increase of 9.2% as compared to the prior year. Of the 516 U.S. domiciled insurers reporting that they write package policies, only five insurers were unable to report direct written premium imbedded in a package policy. The NAIC estimates this missing premium.⁵

⁵ Five of the 516 insurers reporting no premium represent 1.83% of direct written premiums for package policies. To arrive at a figure representing the total market, the NAIC assumed the five insurers who did not report premium but wrote cybersecurity package policies would have reported premiums in the same ratio as those insurers reporting premiums. The NAIC estimates \$9.6 million of direct written premium for those five companies.

The 2018 average direct loss ratio for the top 20 writers of package cyber insurance was 24%. The 2019 average direct loss ratio increased slightly to 24.4%. The top 10 groups writing package cyber insurance products represent 71.2% of the market, and the top 20 groups represent 81% of the market (Exhibit 2).

Exhibit 2 - Top 20 Groups Writing Package Policies for Cyber Insurance by Direct Written Premium

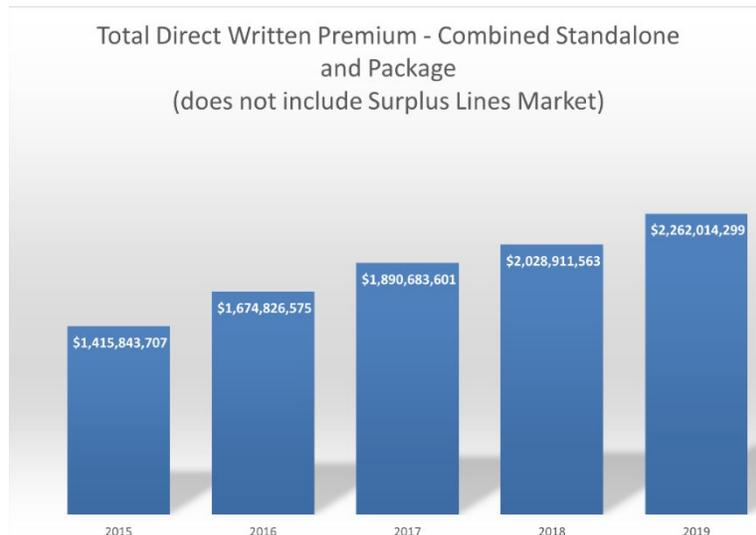
Rank	Group Code	Group Name	Direct Written Premium	Loss Ratio (DCC Included)	Market Share	Cumulative Market Share
1	626	CHUBB LTD GRP	355,278,240	27.7%	36.0%	36.0%
2	218	CNA INS GRP	78,694,306	33.3%	8.0%	43.9%
3	91	HARTFORD FIRE & CAS GRP	49,739,790	31.6%	5.0%	49.0%
4	3416	AXIS CAPITAL GRP	47,695,101	25.5%	4.8%	53.8%
5	111	LIBERTY MUT GRP	38,715,469	3.0%	3.9%	57.7%
6	3548	TRAVELERS GRP	34,501,807	23.7%	3.5%	61.2%
7	23	BCS INS GRP	31,410,721	23.2%	3.2%	64.4%
8	3219	SOMPO GRP	26,313,493	23.6%	2.7%	67.1%
9	244	CINCINNATI FIN GRP	21,660,954	13.6%	2.2%	69.2%
10	31	BERKSHIRE HATHAWAY GRP	19,069,971	20.7%	1.9%	71.2%
11	88	THE HANOVER INS GRP	14,081,513	7.4%	1.4%	72.6%
12	3098	TOKIO MARINE HOLDINGS INC GRP	11,742,092	11.5%	1.2%	73.8%
13	69	FARMERS INS GRP	10,995,383	15.9%	1.1%	74.9%
14	7	FEDERATED MUT GRP	10,610,139	6.8%	1.1%	76.0%
15	65	FM GLOBAL GRP	9,867,904	43.2%	1.0%	77.0%
16	4942	BEAZLEY GRP	9,424,618	32.6%	1.0%	77.9%
17	785	MARKEL CORP GRP	8,395,853	0.0%	0.8%	78.8%
18	140	NATIONWIDE CORP GRP	8,273,639	4.5%	0.8%	79.6%
19	457	ARGO GRP US INC GRP	6,667,736	2.9%	0.7%	80.3%
20	98	WR BERKLEY CORP GRP	6,475,257	6.9%	0.7%	81.0%

Total Market – U.S. Domiciled Insurers

Cybersecurity insurance directly written by U.S. domiciled insurers totaled \$2.26 billion comprised of both stand-alone and package policies, an increase of 11.5% from last year's direct written premium.

To provide perspective, total cyber direct written premiums of \$2.26 billion account for only 0.32% of \$710 billion⁶ property/casualty (P/C) direct written premium markets in the U.S.

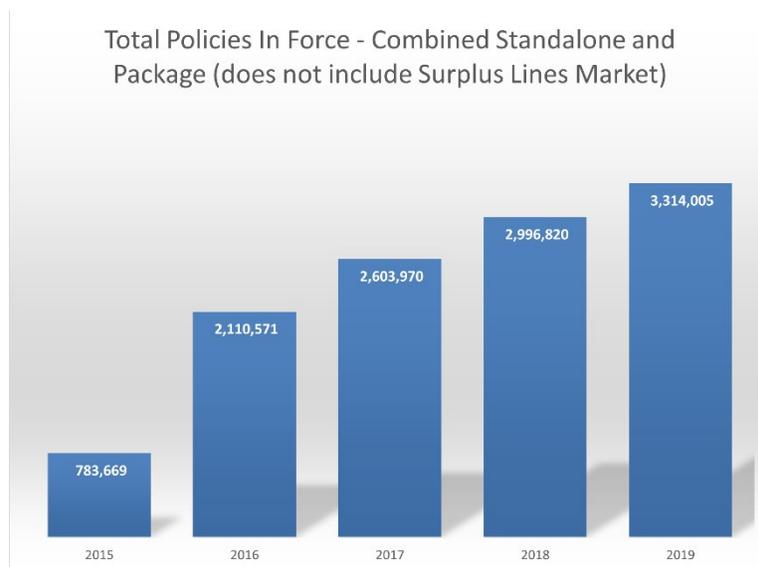
Figure 1



⁶ <https://content.naic.org/sites/default/files/inline-files/YE2019%20Industry%20Report.pdf>.

The five-year trend below shows the total number of policies written by U.S. domiciled insurers.

Figure 2



Alien Surplus Lines Insurers Writing Business in the U.S.

The NAIC receives cybersecurity data filed by alien surplus lines insurers. Alien insurers wrote \$650.3 million in direct cybersecurity stand-alone package policies in 2019, a 16.8% decrease from last year. The reason for the premium decrease was not readily determinable. Alien insurers wrote \$237.3 million in direct premiums for cybersecurity package policies, a decrease of 31.5% from last year. The total written premium for both policy types was \$887.6 million, indicating a total decrease of 21.3%.

Identity Theft Coverage – U.S. Domiciled Insurers Only

From a market perspective, the 2019 data continues to indicate that U.S. insurers' most common product related to cybersecurity is in the form of identity theft coverage. Insurers wrote approximately 19.9 million policies, both stand-alone and package policies, down roughly 4.5% from the prior year.

Stand-alone policies represented \$10.3 million in direct written premium, and the number of policies increased by 32% from the number of policies in force in the previous year. Package policies represented \$187.6 million in direct written premium, and the number of policies decreased by 5.4% from the prior year.

Cyber Insurance Policies and COVID-19

Many employees are currently working from home because of the COVID-19 pandemic. As the pandemic continues, cyber losses are increasing in both frequency and severity.⁷ While the number of cyberattacks has not significantly increased, the rate of their success has escalated, in part because remote work environments make these attacks easier to carry out.⁸

Given the widespread remote working environment, companies and governmental agencies should carefully review the terms and conditions in their cyber insurance policies. A cyber insurance policy may distinguish between computer hardware owned by the insured and devices owned by the employees. This distinction becomes significant, as the insuring agreements in insurance contracts may limit or exclude coverage for computer hardware not owned by the named insured. An insurance policy may contain other requirements related to the use of an employee's devices. In the event of a breach or other cyber incident, coverage may not exist for the use of non-company owned hardware.⁹

⁷ Coalition Insurance Claims Report.

⁸ <https://info.coalitioninc.com/rs/566-KWJ-784/images/DLC-2020-09-Coalition-Cyber-Insurance-Claims-Report-2020.pdf>.

⁹ <https://www.darkreading.com/edge/theedge/will-the-pandemic-complicate-cyber-insurance-claims/b/d-id/1337663>.

Data Table

The chart below depicts the information collected from all years of data collection.

Year	Direct Written Premium Stand-Alone Cyber Policies – U.S. Domiciled Insurers (1)	Direct Written Premium Package Cyber Policies – U.S. Domiciled Insurers (2)	Direct Written Premium Stand-Alone Cyber Policies - Alien Surplus Lines Insurers (3)	Direct Written Premium Package Cyber Policies – Alien Surplus Lines Insurers (4)	Stand-Alone Policy Totals Direct Written Premium (All Insurers) (1+3)	Package Policy Totals Direct Written Premium (All Insurers) (2+4)	Total Direct Written Premium Written (1+2+3+4)
2015	\$ 483,197,973	\$ 932,645,734	Not Reported ¹⁰	Not Reported ¹¹	\$ 483,197,973	\$ 932,645,734	\$ 1,415,843,707
2016	\$ 811,057,406	\$ 863,769,169	\$ 552,226,000	\$ 156,285,000	\$ 1,363,283,406	\$ 1,020,054,169	\$ 2,383,337,575
2017	\$ 994,259,551	\$ 896,424,050	\$ 765,129,000	\$ 431,423,000	\$ 1,759,388,551	\$ 1,327,847,050	\$ 3,087,235,601
2018	\$ 1,113,865,104	\$ 915,046,459	\$ 781,260,000 ¹²	\$ 346,380,000 ¹³	\$ 1,895,125,104	\$ 1,261,426,459	\$ 3,156,551,563
2019	\$ 1,263,214,669	\$ 998,799,630	\$ 650,318,784	\$ 237,301,564	\$ 1,913,533,453	\$ 1,236,101,194	\$ 3,149,634,647

The 2019 data continues to show cyber insurance to be an evolving market, and take-up rates continue to fall under 50%.

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