INSURANCE INFORMATION INSTITUTE

2020 Insurance Fact Book

TO THE READER

As we welcome a new decade, the challenges before the insurance industry are vast. The catastrophic shock of the 2017 and 2018 wildfire seasons, with estimated insured losses ranging between $22 billion and $36 billion to date in California alone—and the $75 billion to $97 billion in losses from the 2017 to 2019 Atlantic hurricane seasons—are telling. What the last decade has foreshadowed could be, as some say, the new abnormal.

This year's Insurance Information Institute (Triple-I) *Insurance Fact Book* ushers in the decade with significant changes that reflect the new risks insurers face. A new section, "Emerging and Evolving Insurance Issues," discusses social inflation, cybersecurity and extreme weather. We have also added a section on the homeowners high-risk market, with new coastline population and coastal storm surge risk charts along with incurred losses for the sector; the commercial lines section now addresses issues surrounding marijuana use and workers compensation with information from the Triple-I's white paper, *Haze of confusion*; and the chapter on losses has been reorganized to present natural and man-made catastrophes more efficiently. The book also includes a look at the state of small businesses cybersecurity with highlights from the Triple-I and J.D. Power's *2019 Small Business Cyber Insurance and Security Spotlight Survey*[SM].

The *Insurance Fact Book* is meant to be used along with our website, www.iii.org. The Triple-I remains a vital source for the public, insurers, regulators, and the media, which all rely on us for credible, timely information. Social networks are another way to stay in touch: We welcome you to like our Facebook page and follow us on Twitter at @iiiorg and @III_Research, or connect with us on LinkedIn.

Thank you to the many associations, consultants and others who collect industry statistics and who have generously given permission to use their data—and to our members, for their longstanding support.

Wishing you all the best in the new decade.

Sean Kevelighan
Chief Executive Officer
Insurance Information Institute

The *2020 Insurance Fact Book* is published by the Insurance Information Institute, a primary source for information, analysis and referral on insurance subjects. The *Fact Book* contains material from numerous sources. Because these sources define and collect data in various ways, and moreover, are constantly refining the data, differences among similar data may occur.

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Chapter 7: Property/Casualty Insurance By Line

Chapter 8: Losses

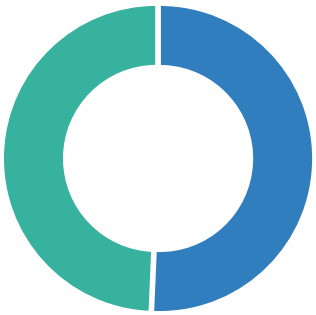
Chapter 9: Factors Affecting Costs

Appendices

Insurance Industry At A Glance

- U.S. insurance industry net premiums written totaled $1.22 trillion in 2018, with premiums recorded by property/casualty (P/C) insurers accounting for 51 percent, and premiums by life/annuity insurers accounting for 49 percent, according to S&P Global Market Intelligence.
- P/C insurance consists primarily of auto, homeowners and commercial insurance. Net premiums written for the sector totaled $618.0 billion in 2018.
- The life/annuity insurance sector consists of annuities, accident and health, and life insurance. Net premiums written for the sector totaled $600.6 billion in 2018.
- Although most private health insurance is written by companies that specialize in that line of business, life and P/C insurers also write coverage referred to as accident and health insurance. Total private health insurance direct premiums written were $919.6 billion in 2018, including: $715.6 billion from the health insurance sector; $197.5 billion from the life/annuity sector; and $6.5 billion from the P/C sector, according to S&P Global Market Intelligence. The health insurance sector also includes government programs.
- In 2018 there were 5,965 insurance companies in the U.S. (including territories). According to the National Association of Insurance Commissioners, those were comprised of the following: P/C (2,507); life/annuity (841); health (931); fraternal (82); title (60); risk retention groups (239) and other companies (1,305).
- Insurance carriers and related activities contributed $564.5 billion, or 2.8 percent, to the nation's gross domestic product (GDP) in 2018, according to the U.S. Bureau of Economic Analysis.

U.S. P/C And L/A Insurance Premiums, 2018 ($ billions)



P/C	50.7%	$618.0
L/A	49.3	600.6
Total	**100.0%**	**$1,218.6**

[1]P/C: net premiums written after reinsurance transactions, excludes state funds; life/annuity: premiums, annuity considerations (fees for annuity contracts) and deposit-type funds. Both sectors include accident and health insurance.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

- Total P/C cash and invested assets were $1.7 trillion in 2018, according to S&P Global Market Intelligence. Life insurance and annuity cash and invested assets totaled $4.1 trillion in 2018; separate accounts assets and other investments totaled $2.5 trillion. The total of cash and invested assets for both sectors was $8.3 trillion. Most of these assets were in bonds (60 percent of P/C assets and 72 percent of life/annuity assets, excluding separate accounts).
- P/C and life/annuity insurance companies paid $22.5 billion in premium taxes in 2018, or $69 for every person living in the United States, according to the U.S. Department of Commerce.
- P/C insurers paid out $49.5 billion in property losses related to catastrophes in 2018, according to the Property Claim Services (PCS) division of Verisk Analytics, down from $105.7 billion in 2017, which was the highest loss since PCS began collecting insured loss data in 1949. There were 55 catastrophes in 2018, compared with 46 in 2017.
- The U.S. insurance industry employed 2.7 million people in 2018, according to the U.S. Department of Labor. Of those, 1.5 million worked for insurance companies, including life and health insurers (870,600 workers), P/C insurers (621,800 workers) and reinsurers (29,100 workers). The remaining 1.2 million people worked for insurance agencies, brokers and other insurance-related enterprises (see chart on next page, *Employment In Insurance, 2009-2018*).

Employment In Insurance, 2009-2018 (Annual averages, 000)

Year	Insurance carriers				Insurance agencies, brokerages and related services			Total industry
	Direct insurers[1]		Reinsurers	Total	Insurance agencies and brokers	Other insurance-related activities[3]	Total	
	Life and health[2]	Property/ casualty						
2009	802.8	632.9	27.5	1,463.2	653.3	254.2	907.4	2,370.6
2010	804.1	614.3	26.8	1,445.2	642.3	253.1	895.5	2,340.6
2011	788.9	611.6	25.6	1,426.1	649.2	261.1	910.3	2,336.4
2012	811.3	599.5	25.7	1,436.5	659.6	272.3	931.8	2,368.3
2013	813.2	593.7	26.2	1,433.1	672.3	283.5	955.8	2,388.9
2014	829.0	594.7	25.1	1,448.8	720.0	297.1	1,017.1	2,465.8
2015	829.8	611.6	25.1	1,466.5	762.8	309.1	1,071.8	2,538.3
2016	818.9	643.5	25.3	1,487.7	783.5	321.5	1,105.0	2,592.7
2017	850.4	639.7	26.6	1,516.7	809.6	333.3	1,142.9	2,659.6
2018	870.6	621.8	29.1	1,521.5	825.2	343.7	1,168.9	2,690.4

[1]Establishments primarily engaged in initially underwriting insurance policies. [2]Includes establishments engaged in underwriting annuities, life insurance and health and medical insurance policies. [3]Includes claims adjusters, third-party administrators of insurance funds and other service personnel such as advisory and insurance ratemaking services.

Source: U.S. Department of Labor, Bureau of Labor Statistics.

Chapter 1

World Insurance Markets

PREMIUMS

World Life And Nonlife Insurance In 2018

Outside the United States, the insurance industry is divided into life and nonlife (or general insurance), rather than life/annuities and property/casualty. Swiss Re's 2018 world insurance study is based on direct premium data from 147 countries, with detailed information on the largest 88 markets. World insurance premiums rose 1.5 percent in 2018, adjusted for inflation, to $5.2 trillion, reaching the $5 trillion mark for the first time. 2018's rise was above the 1.2 percent growth recorded in 2008 to 2017. Nonlife premiums grew 3.0 percent in 2018, adjusted for inflation, faster than the 2.2 percent growth from 2008 to 2017. Life insurance premiums grew 0.2 percent in 2018, falling behind the 0.6 percent rise in 2008 to 2017, adjusted for inflation.

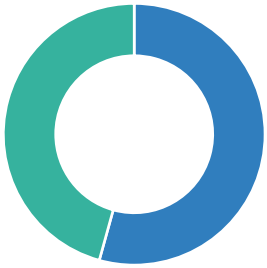
Top 10 Countries By Life And Nonlife Direct Premiums Written, 2018[1] (US$ millions)

Rank	Country	Life premiums	Nonlife premiums[2]	Total premiums		
				Amount	Percent change from prior year	Percent of total world premiums
1	United States[3, 4]	$593,391	$875,984	$1,469,375	5.0%	28.29%
2	PR China[4]	313,365	261,512	574,877	6.2	11.07
3	Japan[4, 5]	334,243	106,405	440,648	3.8	8.49
4	United Kingdom[4]	235,501	101,009	336,510	5.2	6.48
5	France[4]	165,075	92,888	257,963	5.6	4.97
6	Germany[4]	96,439	145,046	241,485	6.3	4.65
7	South Korea[5]	98,072	80,951	179,024	-1.2	3.45
8	Italy	125,341	44,933	170,273	6.9	3.28
9	Canada[4, 6]	54,070	73,833	121,181	5.5	2.46
10	Taiwan	102,044	19,864	121,908	3.8	2.35

[1]Before reinsurance transactions. [2]Includes accident and health insurance. [3]Nonlife premiums include state funds; life premiums are net premiums and include an estimate of group pension business. [4]Estimated or provisional. [5]Financial year April 1, 2018 – March 31, 2019. [6]Nonlife premiums are gross premiums, including reinsurance.

Source: Swiss Re, *sigma*, No. 3/2019.

World Life And Nonlife Insurance Direct Premiums Written, 2018[1] (US$ billions)



Life	$2,820	54%
Nonlife[2]	2,373	46
Total	**$5,193**	**100%**

[1]Before reinsurance transactions. [2]Includes accident and health insurance.
Source: Swiss Re, *sigma*, No. 3/2019.

World Life And Nonlife Insurance Direct Premiums Written, 2016-2018[1] (US$ millions)

Year	Life	Nonlife[2]	Total
2016	$2,576,886	$2,117,918	$4,694,804
2017	2,724,017	2,233,490	4,957,507
2018	2,820,175	2,373,050	5,193,225

[1]Before reinsurance transactions. [2]Includes accident and health insurance.
Source: Swiss Re, *sigma* database, *sigma*, No. 3/2019.

Life And Nonlife Insurance Direct Premiums Written By Country, 2018[1] (US$ millions)

Country	Nonlife premiums[2]	Life premiums	Total premiums	
			Amount	Percent of total world premiums
Algeria	$1,084	$105	$1,189	0.02%
Argentina	10,359	1,760	12,119	0.23
Australia	48,983	30,115	79,098	1.52
Austria	13,785	6,607	20,392	0.39
Bahamas	587	196	783	0.02
Bahrain	582	142	724	0.01
Bangladesh	447	1,093	1,540	0.03
Belgium	18,540	18,712	37,253	0.72
Brazil	33,589	39,251	72,840	1.40
Bulgaria	1,286	206	1,492	0.03
Canada	73,833	54,070	27,903	0.54
Cayman Islands	697	29	725	0.01
Chile	5,390	8,216	13,606	0.26
Colombia	6,369	2,926	9,295	0.18
Costa Rica	1,131	216	1,347	0.03
Croatia	1,071	499	1,570	0.03
Cyprus	581	434	1,015	0.02
Czech Republic	4,480	2,588	7,067	0.14
Denmark	9,831	26,562	36,393	0.70
Dominican Republic	1,012	192	1,204	0.02
Ecuador	1,276	416	1,693	0.03
Egypt	902	677	1,579	0.03
Finland	5,007	22,187	27,194	0.52
France	92,888	165,075	257,963	4.97
Germany	145,046	96,439	241,485	4.65

(table continues)

Life And Nonlife Insurance Direct Premiums Written By Country, 2018[1] (US$ millions) (Cont'd)

Country	Nonlife premiums[2]	Life premiums	Total premiums	
			Amount	Percent of total world premiums
Greece	$2,577	$2,206	$4,783	0.09%
Guatemala	767	202	969	0.02
Hong Kong	4,899	61,013	65,912	1.27
Hungary	2,035	1,754	3,790	0.07
India	26,102	73,735	99,838	1.92
Indonesia	4,863	15,520	20,383	0.39
Iran	6,678	1,010	7,688	0.15
Ireland	9,738	63,424	73,162	1.41
Israel	8,591	10,071	18,662	0.36
Italy	44,933	125,341	170,273	3.28
Jamaica	470	309	779	0.02
Japan	106,405	334,243	440,648	8.49
Jordan	775	120	895	0.02
Kazakhstan	759	259	1,018	0.02
Kenya	1,273	861	2,134	0.04
Kuwait	1,145	163	1,307	0.03
Lebanon	1,079	524	1,604	0.03
Liechtenstein	3,150	2,393	5,542	0.11
Luxembourg	4,774	28,089	32,862	0.63
Malaysia	5,053	11,581	16,634	0.32
Malta	3,586	1,758	5,344	0.10
Mexico	15,206	12,138	27,344	0.53
Morocco	2,432	2,147	4,579	0.09
Namibia	287	723	1,009	0.02
Netherlands	68,605	15,743	84,348	1.62
New Zealand	8,629	1,777	10,406	0.20
Nigeria	671	549	1,220	0.02
Norway	8,939	12,138	21,077	0.41
Oman	960	156	1,116	0.02
Pakistan	713	1,923	2,636	0.05
Panama	1,178	392	1,570	0.03
Peru	2,007	1,908	3,916	0.08
Philippines	1,846	4,172	6,018	0.12
Poland	12,203	4,371	16,574	0.32

(table continues)

Life And Nonlife Insurance Direct Premiums Written By Country, 2018[1] (US$ millions) (Cont'd)

Country	Nonlife premiums[2]	Life premiums	Total premiums	
			Amount	Percent of total world premiums
Portugal	$5,786	$9,741	$15,527	0.30%
PR China	261,512	313,365	574,877	11.07
Qatar	3,038	[3]	NA	NA
Romania	2,011	504	2,515	0.05
Russia	16,374	7,220	23,593	0.45
Saudi Arabia	9,157	306	9,463	0.18
Serbia	751	227	978	0.02
Singapore	8,153	22,456	30,609	0.59
Slovakia	1,623	981	2,603	0.05
Slovenia	1,919	847	2,765	0.05
South Africa	9,794	38,475	48,269	0.93
South Korea	80,951	98,072	179,024	3.45
Spain	39,945	34,118	74,062	1.43
Sri Lanka	551	476	1,026	0.02
Sweden	10,089	27,003	37,092	0.71
Switzerland	28,940	30,444	59,384	1.14
Taiwan	19,864	102,044	121,908	2.35
Thailand	8,485	18,136	26,622	0.51
Trinidad and Tobago	644	525	1,169	0.02
Tunisia	684	186	870	0.02
Turkey	9,035	1,417	10,452	0.20
Ukraine	1,629	145	1,774	0.03
United Arab Emirates	9,607	2,854	12,461	0.24
United Kingdom	101,009	235,501	336,510	6.48
United States	875,984	593,391	1,469,375	28.29
Uruguay	898	592	1,490	0.03
Venezuela	7,572	192	7,764	0.15
Vietnam	2,040	3,799	5,839	0.11
Zimbabwe	276	459	735	0.01
Other	12,645	5,273	117,922	2.27
World[4]	**$2,373,050**	**$2,820,175**	**$5,193,225**	**100.00%**

[1]Before reinsurance transactions. For more information on country data see www.swissre.com. [2]Includes accident and health insurance. [3]Data not available. [4]Totals may not add up due to rounding.

NA=Not applicable.

Source: Swiss Re, *sigma*, No. 3/2019.

Top 10 Countries By Total Insurance Premiums Per Capita And Percent Of Gross Domestic Product (GDP), 2018[1]

(US$ millions)

Rank	Country	Total premiums per capita
1	Cayman Islands	$11,642
2	Hong Kong	8,863
3	Switzerland	6,934
4	Denmark	6,289
5	Ireland	5,253
6	Taiwan	5,161
7	Luxembourg	5,001
8	Singapore	4,958
9	Finland	4,926
10	Netherlands	4,890
Total world		**$682**

Rank	Country	Total premiums as a percent of GDP
1	Taiwan	20.88%
2	Hong Kong	18.16
3	Cayman Islands	17.51
4	South Africa	12.89
5	South Korea[2]	11.16
6	United Kingdom	10.61
7	Denmark	10.37
8	Finland	9.87
9	Netherlands	9.24
10	France	8.89
Total world		**6.09%**

[1]Includes nonlife and life insurance and cross-border business. [2]April 1, 2018 to March 31, 2019.
Source: Swiss Re, *sigma*, No. 3/2019.

REINSURANCE

Each year the Reinsurance Association of America (RAA) provides an overview of the countries from which U.S. insurance companies obtain reinsurance, i.e., the countries to which they have ceded, or transferred, some of their risk. The analysis includes premiums that a U.S. insurance company cedes to offshore, i.e., foreign, reinsurance companies that are not part of the insurer's own corporate group (*unaffiliated offshore reinsurers* in the chart below), as well as business ceded to overseas reinsurers that are part of the insurer's corporate family (*affiliated offshore reinsurers* in the chart below).

The RAA report, *Offshore Reinsurance in the U.S. Market*, compares U.S. insurance premiums ceded to U.S. professional reinsurance companies to the U.S. premiums ceded to offshore, i.e., foreign, companies. U.S. professional reinsurance companies accounted for 37.1 percent of the U.S. premiums written that was ceded in 2017, while offshore companies accounted for 62.9 percent. However, a number of U.S.-based reinsurers are owned by foreign companies. Taking this into consideration, offshore or foreign owned U.S. reinsurers accounted for 91.0 percent of premiums assumed in 2017, while U.S. professional reinsurers accounted for 9.0 percent.

U.S. Reinsurance Premiums Ceded to Unaffiliated and Affiliated Offshore Reinsurers, 2013-2017 (US$ millions)

	2013	2014	2015	2016	2017
Unaffiliated offshore reinsurers	$29,176	$30,211	$33,035	$34,652	$36,638
Affiliated offshore reinsurers	38,741	42,295	45,469	49,019	48,302
Total	**$67,917**	**$72,506**	**$78,504**	**$83,671**	**$84,940**

Source: Reinsurance Association of America.

Top 10 Countries By U.S. Reinsurance Premiums Ceded To Unaffiliated And Affiliated Offshore Reinsurers, 2017 (US$ millions)

Unaffiliated offshore reinsurers		
Rank	**Country**	**Premiums ceded**
1	Bermuda	$10,954
2	United Kingdom	5,622
3	Switzerland	5,079
4	Germany	4,584
5	Cayman Islands	4,097
6	Turks and Caicos	1,736
7	Barbados	651
8	British Virgin Islands	599
9	Ireland	558
10	Channel Islands	510
Total, top 10 countries		**$34,389**
Total world		**$36,638**

Affiliated offshore reinsurers		
Rank	**Country**	**Premiums ceded**
1	Bermuda	$26,438
2	Switzerland	13,817
3	Germany	2,510
4	Cayman Islands	1,262
5	France	1,039
6	United Kingdom	618
7	Turks and Caicos	567
8	Spain	526
9	Ireland	491
10	Japan	399
Total, top 10 countries		**$47,668**
Total world		**$48,302**

Source: Reinsurance Association of America.

LEADING COMPANIES

Top 10 Global Insurance Companies By Revenues, 2018[1] (US$ millions)

Rank	Company	Revenues	Country	Industry
1	Berkshire Hathaway	$247,837	U.S.	Property/casualty
2	Ping An Insurance	163,597	China	Life/health
3	Allianz	126,800	Germany	Property/casualty
4	AXA	125,578	France	Life/health
5	China Life Insurance	116,172	China	Life/health
6	Japan Post Holdings	115,221	Japan	Life/health
7	Assicurazioni Generali	88,157	Italy	Life/health
8	State Farm Insurance Cos.	81,732	U.S.	Property/casualty
9	People's Insurance Company of China	75,377	China	Property/casualty
10	Nippon Life Insurance	74,202	Japan	Life/health

[1]Based on an analysis of companies in the Global Fortune 500. Includes stock and mutual companies.
Source: Fortune.

Top 10 Global Property/Casualty Reinsurers By Gross Reinsurance Premiums Written, 2018[1] (US$ millions)

Rank	Company	Gross reinsurance premiums written	Country
1	Munich Reinsurance Co.	$23,395	Germany
2	Swiss Re Ltd.	20,864	Switzerland
3	Lloyd's of London[2]	14,064	U.K.
4	Hannover Re S.E.[3]	13,709	Germany
5	Berkshire Hathaway Inc.	9,930	U.S.
6	Scor S.E.	7,069	France
7	Everest Re Group Ltd.	6,225	Bermuda
8	PartnerRe Ltd.	5,065	Bermuda
9	XL Bermuda Ltd.	5,002	Bermuda
10	Transatlantic Holdings Inc.	4,451	U.S.

[1]Ranked by unaffiliated gross written premiums. [2]Lloyd's premiums are reinsurance only. Premiums for cetrtain groups within the rankings also may include Lloyd's syndicate premiums when applicable. [3]Net premiums earned.
Source: A.M. Best Co. Inc., Business Insurance (www.businessinsurance.com), October 2019.

Top 10 Global Insurance Brokers By Revenues, 2018[1] (US$ millions)

Rank	Company	Brokerage revenues	Country
1	Marsh & McLennan Cos. Inc.[2]	$16,839[3]	U.S.
2	Aon PLC	10,717	U.K.
3	Willis Towers Watson PLC	8,413	U.K.
4	Arthur J. Gallagher & Co.	5,107	U.S.
5	Hub International Ltd.	2,147	U.S.
6	BB&T Insurance Holdings Inc.[4]	2,016	U.S.
7	Brown & Brown Inc.[4]	2,010	U.S.
8	Lockton Cos. LLC[5]	1,706	U.S.
9	USI Insurance Services LLC	1,665	U.S.
10	Acrisure LLC	1,378	U.S.

[1]Revenue generated by insurance brokerage and related services. [2]Reflects acquistions made in 2018 and 2019. [3]Pro forma to reflect the acquisition of Jardine Lloyd Thompson Group PLC in April 2019. [4]Reflects acquisition made in 2018. [5]Fiscal year ending April 30.
Source: Business Insurance (www.businessinsurance.com), July 2019.

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In 2008 revenues from the 10 largest brokers totaled $30.0 billion.

Revenue generated by the world's 10 largest brokers increased 9.7 percent to $52.0 billion in 2018 from $47.4 billion in 2017. The 2018 top 10 total includes revenue from Jardine Lloyd Thompson which was acquired by Marsh and McLennan Cos. in April 2019.

Top Five Global Reinsurance Brokers By Reinsurance Brokerage and Related Services Revenues, 2018[1]

(US$ millions)

Rank	Company	Gross reinsurance revenues	Country
1	Guy Carpenter & Co. L.L.C.	$1,581.7	U.S.
2	Aon's Reinsurance Solutions	1,546.0	U.K.
3	Willis Re	901.8	U.K.
4	TigerRisk Partners LLC	95.0	U.S.
5	UIB Holdings Ltd.	64.4	U.K.

[1]Includes all reinsurance revenue reported through holding and/or subsidiary companies.
Source: Business Insurance (www.businessinsurance.com), October 2019.

INTERNATIONAL SALES

The U.S. Department of Commerce provides estimates on two methods of international delivery of insurance services: cross-border trade, in which a domestic company transacts directly with a foreign company (for example, a European firm purchasing insurance from a U.S. firm through a broker); and sales by subsidiaries of multinational corporations (for example, sales to the European market through a European-based subsidiary of a U.S. insurer). The combination of these methods of delivery creates a broad measure of insurance services provided and received from abroad.

U.S. Insurance Sales Abroad, 2010-2017 (US$ millions)

Year	Sold directly[1]	Sold through majority-owned foreign affiliates of U.S. multinational corporations[2]
2010	$14,397	$58,379
2011	15,114	59,942
2012	16,790	64,346
2013	16,696	65,239
2014	17,333	67,126
2015	16,229	64,940
2016	16,348	64,828
2017	18,047	NA

[1]Largely based on premiums. Includes adjustments for "normal," i.e., expected losses and premium supplements (income due to policyholders). Bureau of Economic Analysis refers to this category as "cross border sales." Includes property/casualty, life insurance and reinsurance. [2] Based on sales by primary industry of the affiliate; there could be other services, such as financial services, included in the data.

NA=Data not available.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Division.

Insurance Business In The U.S. Written By Subsidiaries Of Foreign Controlled Companies, 2013-2017 (US$ millions)

	Gross premiums written					
					2017	
	2013	2014	2015	2016	Amount	Percent of total
Life	$143,429	$150,000	$145,373	$154,523	$163,386	63.2%
Nonlife	74,219	76,306	78,314	92,272	95,229	36.8
Total	**$217,648**	**$226,306**	**$223,687**	**$246,795**	**$258,615**	**100.0%**

Source: Organization for Economic Cooperation and Development.

CAPTIVES AND OTHER RISK-FINANCING OPTIONS

A number of alternatives to traditional commercial insurance have emerged to respond to fluctuations in the marketplace. Captives—a special type of insurance company set up by a parent company, trade association or group of companies to insure the risks of its owner or owners—emerged during the 1980s when businesses had trouble obtaining some types of commercial insurance coverage. Today alternative risk transfer arrangements include self insurance, risk retention groups and risk purchasing groups and more recent innovations such as catastrophe bonds and microinsurance.

For a complete list of captives in the United States, see *A Firm Foundation: How Insurance Supports the Economy*.

Leading Captive Domiciles, 2017-2018

Rank	Domicile	Number of captives 2017	2018
1	Bermuda	739	711
2	Cayman Islands	669	674
3	Vermont	578[1]	580
4	Utah	481[1]	443
5	Delaware	391	421
6	Barbados	266	276
7	North Carolina	220	240[2]
8	Hawaii	230	231
9	Guernsey	217[1]	206
10	Luxembourg	204[1]	198
11	South Carolina	172	171
12	Tennessee	155	169
13	Anguilla	188[1]	165
14	Nevada	172[1]	156
15	Nevis	151	155
16	Montana	141[1]	129
17	Arizona	121	124
18	District of Columbia	102	105
19	Isle of Man	109	103
20	Dublin	83	78
Total, top 20		**5,342**	**7,035**
Total, all captives		**6,337[1]**	**6,454**

[1]Restated. [2]Business Insurance estimate.

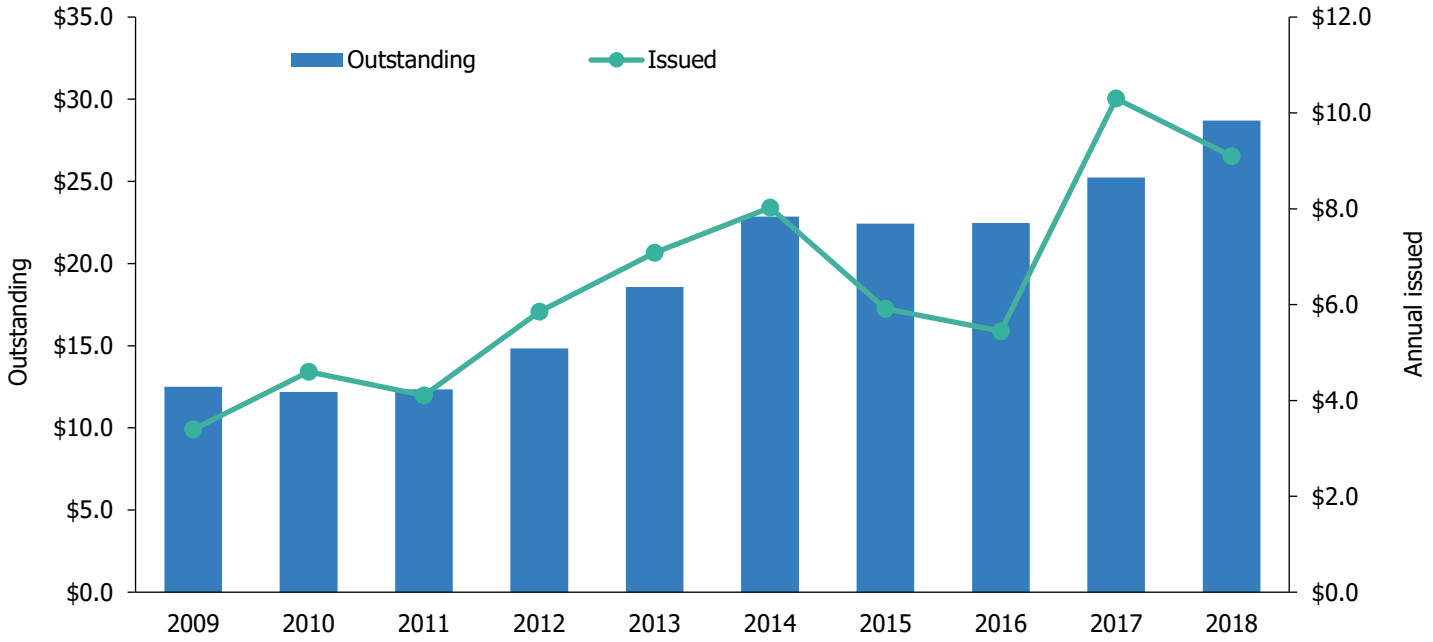
Source: Business Insurance (www.businessinsurance.com), March 2019.

The Securitization Of Insurance Risk: Catastrophe Bonds

Catastrophe (cat) bonds are one of a number of innovative risk transfer products that have emerged as an alternative to traditional insurance and reinsurance products. Insurers and reinsurers typically issue cat bonds through a special purpose vehicle, a company set up specifically for this purpose. Cat bonds pay high interest rates and diversify an investor's portfolio because natural disasters occur randomly, and are not correlated with other economic risk. Depending on how the cat bond is structured, if losses reach the threshold specified in the bond offering, the investor may lose all or part of the principal or interest.

Catastrophe bond issuance in 2018 dipped slightly to $9.1 billion from 2017's record high of $10.3 billion, according to the GC Securities division of MMC Securities Corp. The catastrophe bond risk capital outstanding in 2018 of $28.7 billion surpassed the record high of $25.2 billion in 2017. U.S.-based perils comprised the majority of cat bonds issued in 2018. GC Securities expects the upward trend in issuance to continue in 2019.

Catastrophe Bonds, Risk Capital Outstanding And Annual Issued, 2009-2018 (US$ billions)



Source: GC Securities, a division of MMC Securities Corp., a registered broker-dealer, member FINRA/SIPC, and Guy Carpenter.

MICROINSURANCE AND EMERGING MARKETS

A growing number of insurers are tapping into markets in developing countries through microinsurance projects, which provide low-cost insurance to individuals generally not covered by traditional insurance or government programs. Microinsurance covers those with low incomes for accidents, illnesses and natural disasters with premium payments customized for their income and level of risk, according to the Microinsurance Network. The market for microinsurance has a potential market for more than 2 billion people around the globe because microinsurance products tend to be much less costly than traditional products and thus extend protection to a much wider market. Products vary in type and structure but are generally distinguished by high volumes, low cost and efficient administration. Policies may be offered along with a small loan, with premiums that are a small percentage of the loan amount. The approach is an outgrowth of the microfinancing projects developed by Bangladeshi Nobel Prize-winning banker and economist Muhammad Yunus, which helped millions of low-income individuals in Asia and Africa to set up businesses and buy houses. Today many innovative microinsurance products have been developed to protect the working poor against the financial impact of losses.

The Microinsurance Network is a nonprofit global organization of microinsurance industry experts comprised of 80 institutional members from more than 40 countries committed to promoting the development and delivery of valuable insurance services for low-income people. According to the Network's *Annual Report 2017*, while emerging markets account for around one-fifth of total global premium, they represent 80 percent of the world population, pointing toward an enormous potential for growth. The Network's World Map of Microinsurance shows that over 280 million people worldwide are covered by at least one microinsurance policy with premiums totaling $2.4 billion.

Insurance In Emerging Markets

With limited growth prospects in the insurance markets of developed countries, insurers see emerging economies as presenting significant potential for growth and profitability. Premium growth in developing countries has been outpacing growth in industrialized countries. Swiss Re identifies emerging markets as countries in South and East Asia, Latin America and the Caribbean, Central and Eastern Europe, Africa, the Middle East (excluding Israel), Central Asia, and Turkey. Swiss Re's 2019 *sigma* report on world insurance markets reported that premiums in emerging countries rose 2.1 percent in 2018, after adjusting for inflation, much slower than the 9.6 percent rise in 2017, mainly due to a decrease in life premiums in China. Growth in developing markets outpaced growth in advanced markets, where premiums increased 1.3 percent in 2018 after rising 1.6 percent in 2017. Emerging markets accounted for 21.3 percent of total global premium volume in 2018, about the same as in 2017.

Life sector premiums fell 2.0 percent in emerging markets in 2018, after inflation, following a 12.5 percent increase in 2017. In advanced markets, life premiums rose 0.8 percent in 2018 and 1.3 percent in 2017. Nonlife sector premiums in emerging markets rose 7.1 percent in 2018, adjusted for inflation, up from 5.9 percent in 2017, while nonlife premiums rose 1.9 percent last year in advanced markets after increasing 2.1 percent in 2017.

Swiss Re expects emerging markets to continue to increase their share of the global insurance market, based on direct premiums written, from 21 percent in 2018 to 34 percent in 2029. One of the factors contributing to this increase is growth in the Asia-Pacific region, which includes advanced and emerging countries including China. Premiums are forecast to account for 42 percent of global premiums, up from 39 percent in 2018. In particular, premiums in the Chinese market, which already account for more than half of the emerging markets, are expected to grow faster than the rest of those markets.

Other insurance channels: In addition to microinsurance, emerging markets would also benefit from other marketing channels. One such channel, remittances, is a significant way migrants send payments to their families in their home countries. In 2018 the World Bank estimated that remittances amounted to $530 billion worldwide and were the largest source of capital for low- and middle-income countries. The largest remittances flow into countries that have the largest number of emigrants living in advanced economies. Central America, the Middle East and countries that were in the former Soviet Union are the most reliant on remittances. According to Swiss Re, these payments improve the economic welfare and resilience in home countries. Currently only a small fraction of remittance payments is insured for the death or disability of the sender. Migrants using remittance systems can be made aware of the benefits of insuring their remittances. Swiss Re estimates that insurance premiums linked to remittances could reach $1 billion in the next decade. Insurers could then begin to introduce other traditional insurance products such as auto, accident or renters insurance.

The parametric model is an alternative to traditional insurance where a specific trigger or index generates claims payments immediately. Triggers are designed to be objective and transparent, and insurers must thoroughly understand the consequences of the trigger. A payment schedule is set in advance based on the severity of an event. For example, an earthquake that reaches a certain magnitude defined by the U.S. Geological Survey, or a hurricane that meets the criteria of a certain category of storm by the National Weather Service, would serve as triggers. Other examples are crop yields and rainfall totals. Payments are made as soon as the triggers are reached, whether actual losses were sustained. Parametric insurance gives customers the advantage of fast claims payouts, often via mobile phone networks, and for commercial insurers, it removes some of the barriers they face when entering new and developing markets. The Microinsurance Network looks to parametric insurance as a solution to losses by small farmers around the world who may be affected by extreme weather conditions.

Insurance In Emerging Markets, 2018

	Direct premiums written, 2018[1]	Percent change from 2017[2]	Share of world market	Premiums as a percent of GDP[3]	Premiums per capita (US$)
Total industry					
Advanced markets	$4,086,137	1.3%	78.68%	7.81%	$3,737
Emerging markets	1,107,088	2.1	21.32	3.18	169
Total	**$5,193,225**	**1.5%**	**100.00%**	**6.09%**	**$682**
Life					
Advanced markets	$2,231,352	0.8%	79.12%	4.27%	$2,042
Emerging markets	588,822	-2.0	20.90	1.69	90
Total	**$2,820,175**	**0.2%**	**100.00%**	**3.31%**	**$370**
Nonlife					
Advanced markets	$1,854,785	1.9%	78.16%	3.54%	$1,694
Emerging markets	518266	7.1	21.84	1.49	79
Total	**$2,373,050**	**3.0%**	**100.00%**	**2.78%**	**$312**

[1]Expressed in millions of U.S. dollars. [2]Inflation-adjusted. [3]Gross domestic product.
Source: Swiss Re, *sigma*, No. 3/2019.

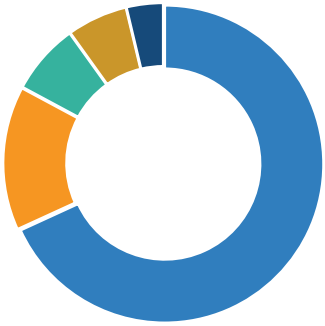
According to Swiss Re, China is the largest emerging market country based on insurance premiums written (including life and nonlife business), with $574.9 billion in premiums written in 2018, followed by India with $99.8 billion and Brazil with $72.8 billion. However, when measured by insurance density, the Bahamas ranked first, with $1,963 in premiums per capita (including life and nonlife business).

Top 10 Emerging Markets By Insurance Density, 2018[1]

Rank	Country	Total premiums[2]	
		Per capita (US$)	As a percent of GDP[3]
1	Bahamas	$1,963	6.20%
2	Slovenia	1,336	4.94
3	United Arab Emirates	1,305	2.92
4	Trinidad and Tobago	853	4.40
5	South Africa	840	12.89
6	Chile	747	4.60
7	Czech Republic	666	2.77
8	Bahrain	520	1.83
9	Malaysia	518	4.77
10	Slovakia	478	2.31

[1]Based on total insurance premiums per capita. Excludes cross-border business. [2]Life and nonlife premiums. Data are estimated for Bahamas, Bahrain, Chile, Malaysia, Slovakia, South Africa and the United Arab Emirates. [3]Gross domestic product.
Source: Swiss Re, *sigma*, No. 3/2019.

Total Insurance Premiums, Emerging Markets, 2018[1] (US$ millions, end of year)



Emerging Asia	68.2%	$754,588
Latin America and Caribbean	14.7	162,521
Emerging Europe and Central Europe	7.2	80,261
Africa	6.2	63,383
Emerging Middle East	3.7	41,335
Total	**100.0%**	**$1,107,088**

[1] Includes life and nonlife insurance premiums.

Source: Insurance Information Institute using data from Swiss Re, *sigma*, No. 3/2019.

Chapter 2

U.S. Insurance Industry, All Sectors

PREMIUMS

Net Premiums Written, Property/Casualty And Life/Annuity

There are three main insurance sectors. Property/casualty (P/C) consists mainly of auto, home and commercial insurance. Life/annuity consists mainly of life insurance and annuity products. Most private health insurance is written by insurers whose main business is health insurance. However, life/annuity and P/C insurers also write health coverage. In 2018 total P/C net premiums written rose by 10.7 percent, while life/annuity net premiums written rose at a slower rate, 1.0 percent.

Property/Casualty And Life/Annuity Insurance Net Premiums Written, 2009-2018 ($000)

Year	Property/casualty[1]	Life/annuity[2]	Total
2009	$422,931,285	$491,486,948	$914,418,233
2010	426,082,428	560,434,300	986,516,728
2011	441,585,290	602,255,968	1,043,841,258
2012	460,666,320	623,237,155	1,083,903,475
2013	481,604,890	560,069,272	1,041,674,162
2014	502,578,473	644,479,853	1,147,058,326
2015	520,047,073	635,549,216	1,155,596,289
2016	533,744,458	597,634,158	1,131,378,616
2017	558,135,348	594,910,567	1,153,045,915
2018	617,958,003	600,606,697	1,218,564,700
Percent change, 2009-2018	**46.1%**	**22.2%**	**33.3%**

[1]Net premiums written after reinsurance transactions, excludes state funds, includes accident and health insurance. [2]Includes premiums, annuity considerations (fees for annuity contracts), deposit-type funds and accident and health insurance.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Property/Casualty And Life/Annuity Insurance Premiums, 2018[1] (US$ billions)

Property/casualty	50.7%	$618.0
Life/annuity	49.3	600.6
Total	**100.0%**	**$1,218.6**

[1]Property/casualty: net premiums written after reinsurance transactions, excludes state funds; life/annuity: premiums, annuity considerations (fees for annuity contracts) and deposit-type funds. Both sectors include accident and health insurance.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Growth In Net Premiums Written, Property/Casualty And Life/Annuity Insurance, 2009-2018

(Percent change from prior year)

[1]Net premiums written after reinsurance transactions, excludes state funds, includes accident and health insurance. [2]Includes premiums, annuity considerations (fees for annuity contracts), deposit-type funds and accident and health insurance.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Direct Premiums Written, Property/Casualty And Life/Annuity

Property/Casualty And Life/Annuity Insurance Direct Premiums Written, 2009-2018 ($000)

Year	Property/casualty[1]	Life/annuity[2]	Total
2009	$483,161,839	$608,132,068	$1,091,293,908
2010	484,400,894	612,878,624	1,097,279,518
2011	502,011,305	656,924,642	1,158,935,946
2012	523,914,193	684,846,102	1,208,760,295
2013	546,334,118	646,630,185	1,192,964,304
2014	570,782,303	662,282,225	1,233,064,528
2015	591,757,789	681,077,936	1,272,835,725
2016	613,383,327	683,352,546	1,296,735,873
2017	642,509,475	691,374,713	1,333,884,188
2018	678,313,862	733,198,228	1,411,512,090
Percent change, 2009-2018	**40.4%**	**20.6%**	**29.3%**

[1]Direct premiums written before reinsurance transactions, excludes state funds, includes accident and health insurance. [2]Includes premiums, annuity considerations (fees for annuity contracts), deposit-type funds and accident and health insurance.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

LEADING COMPANIES

Top 10 Writers Of Property/Casualty Insurance By Direct Premiums Written, 2018 ($000)

Rank	Group/company	Direct premiums written[1]	Market share[2]
1	State Farm Mutual Automobile Insurance	$65,861,617	9.7%
2	Berkshire Hathaway Inc.	43,869,809	6.5
3	Liberty Mutual	34,605,081	5.1
4	Progressive Corp.	33,754,923	5.0
5	Allstate Corp.	33,251,176	4.9
6	Travelers Companies Inc.	26,244,172	3.9
7	Chubb Ltd.	22,125,338	3.3
8	USAA Insurance Group	21,984,970	3.2
9	Farmers Insurance Group of Companies	20,309,974	3.0
10	Nationwide Mutual Group	18,416,861	2.7

[1]Before reinsurance transactions, includes state funds and accident and health insurance. [2]Based on U.S. total, includes territories.
Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Top 10 Writers Of Life/Annuity Insurance By Direct Premiums Written, 2018 ($000)

Rank	Group/company	Direct premiums written[1]	Market share[2]
1	MetLife Inc.	$96,451,607	14.1%
2	Prudential Financial Inc.	53,148,550	7.8
3	New York Life Insurance Group	35,452,211	5.2
4	Massachusetts Mutual Life Insurance Co.	27,154,611	4.0
5	American International Group (AIG)	26,446,934	3.9
6	Lincoln National Corp.	25,804,565	3.8
7	Principal Financial Group Inc.	25,322,774	3.7
8	AXA	22,579,431	3.3
9	Transamerica	22,352,418	3.3
10	Jackson National Life Group	21,511,557	3.2

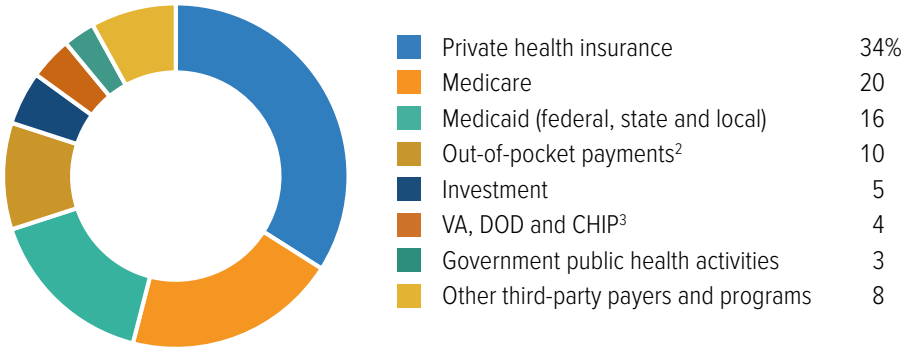
[1]Includes life insurance, annuity considerations, deposit-type contract funds and other considerations, and accident and health insurance. Before reinsurance transactions.
[2]Based on U.S. total, includes territories.
Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

HEALTH

Healthcare Expenditures

In 2017 nearly half (43 percent) of the nation's healthcare costs of $3.5 trillion were covered under Medicaid, Medicare and other public programs, according to the U.S. Department of Health and Human Services Centers for Medicare and Medicaid Services (CMS).

Where the Nation's Healthcare Dollar Came From, 2017[1]



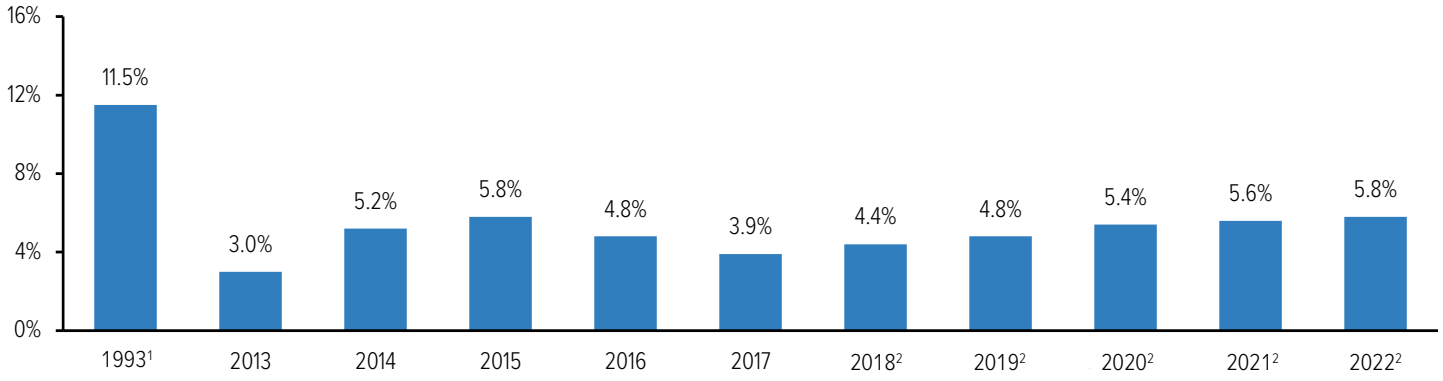
[1]Sum of components may not add to 100 percent due to rounding. [2]Includes co-payments, deductibles, and any amounts not covered by health insurance. [3]Department of Veterans Affairs, Department of Defense and Children's Health Insurance Program.

Source: Centers for Medicare and Medicaid Services, Office of the Actuary, National Health Statistics Group.

According to the CMS, national healthcare expenditures rose 3.9 percent to $3.5 trillion in 2017, compared with 4.8 percent in 2016. The slower healthcare spending growth from 2016 to 2017 was similar to average growth from 2008 to 2013, before healthcare expansion and strong retail prescription drug spending spurred growth. Between 1970 and 1993, at the beginning of the shift to managed care, healthcare expenditures rose 11.5 percent on an average annual basis. The health spending share of the U.S. gross domestic product was 17.9 percent in 2017, basically unchanged from 18.0 percent in 2016. Healthcare spending rose to $10,739 per capita in 2017, up 3.2 percent from $10,410 in 2016.

CMS projected that annual health expenditures increased by 4.4 percent in 2018. Under current law, health expenditure growth will average 5.5 percent a year through 2027, due to increases in the cost of healthcare goods and services and personal healthcare prices, shifts in enrollment from private health insurance to Medicare as the population ages, and expanded eligibility for Medicaid in five states.

National Health Expenditures, Average Annual Percent Growth From Prior Year, 1993-2022



[1]Average annual growth from 1970 through 1993; marks the beginning of the shift to managed care. [2]Projected.

Source: Centers for Medicare and Medicaid Services, Office of the Actuary.

EMPLOYMENT AND OTHER ECONOMIC CONTRIBUTIONS

Property/casualty and life/annuity insurance companies contribute to the U.S. economy far beyond their core function of helping to manage risk.

Insurers drive the economy of the United States in the following ways:

- The insurance sector is a large employer, providing some 2.7 million jobs, or 2.1 percent of U.S. employment in 2018.
- Helping to fund the building of roads, schools and other public projects, insurance companies invested $785 billion in state and local municipal bonds and loans in 2018.
- Providing businesses with capital for research, expansions and other ventures, insurance companies held $4.5 trillion in stocks and bonds in 2018.
- The insurance industry contributed $564.5 billion or 2.8 percent to the $20.5 trillion GDP in 2018.
- The taxes insurers pay include special levies on insurance premiums, which amounted to $22.5 billion in 2018, or 2.2 percent of all taxes collected by states.
- The insurance industry is a major contributor to charitable causes. According to the Insurance Industry Charitable Foundation (IICF) the industry has contributed more than $31 million in local community grants and more than 300,000 volunteer hours to hundreds of community nonprofit organizations. The industry raised more than $630,000 in disaster relief funds to benefit those affected by the devastating hurricanes and wildfires in 2017.

Employment In Insurance, 2009-2018 (Annual averages, 000)

Year	Insurance carriers				Insurance agencies, brokerages and related services			Total industry
	Direct insurers[1]		Reinsurers	Total	Insurance agencies and brokers	Other insurance-related activities[3]	Total	
	Life and health[2]	Property/ casualty						
2009	802.8	632.9	27.5	1,463.2	653.3	254.2	907.4	2,370.6
2010	804.1	614.3	26.8	1,445.2	642.3	253.1	895.5	2,340.6
2011	788.9	611.6	25.6	1,426.1	649.2	261.1	910.3	2,336.4
2012	811.3	599.5	25.7	1,436.5	659.6	272.3	931.8	2,368.3
2013	813.2	593.7	26.2	1,433.1	672.3	283.5	955.8	2,388.9
2014	829.0	594.7	25.1	1,448.8	720.0	297.1	1,017.1	2,465.8
2015	829.8	611.6	25.1	1,466.5	762.8	309.1	1,071.8	2,538.3
2016	818.9	643.5	25.3	1,487.7	783.5	321.5	1,105.0	2,592.7
2017	850.4	639.7	26.6	1,516.7	809.6	333.3	1,142.9	2,659.6
2018	870.6	621.8	29.1	1,521.5	825.2	343.7	1,168.9	2,690.4

[1]Establishments primarily engaged in initially underwriting insurance policies. [2]Includes establishments engaged in underwriting annuities, life insurance and health and medical insurance policies. [3]Includes claims adjusters, third-party administrators of insurance funds and other service personnel such as advisory and insurance ratemaking services.

Source: U.S. Department of Labor, Bureau of Labor Statistics.

Insurance Carriers And Related Activities Employment By State, 2018[1]

State	Number of employees	State	Number of employees
Alabama	40,149	Montana	9,103
Alaska	2,614	Nebraska	35,193
Arizona	75,192	Nevada	21,391
Arkansas	23,725	New Hampshire	15,785
California	331,469	New Jersey	105,977
Colorado	59,095	New Mexico	14,016
Connecticut	69,696	New York	199,165
Delaware	7,903	North Carolina	89,745
D.C.	4,392	North Dakota	10,513
Florida	247,334	Ohio	144,086
Georgia	114,362	Oklahoma	32,533
Hawaii	11,316	Oregon	34,199
Idaho	15,139	Pennsylvania	161,564
Illinois	158,436	Rhode Island	11,967
Indiana	66,024	South Carolina	44,725
Iowa	58,599	South Dakota	12,184
Kansas	37,988	Tennessee	69,657
Kentucky	43,828	Texas	305,232
Louisiana	38,617	Utah	29,475
Maine	13,920	Vermont	5,140
Maryland	49,669	Virginia	73,586
Massachusetts	84,333	Washington	57,263
Michigan	83,568	West Virginia	11,719
Minnesota	77,174	Wisconsin	82,083
Mississippi	20,059	Wyoming	3,743
Missouri	71,955	**United States**	**3,386,600**

[1]Total full-time and part-time employment. Note: Does not match data shown elsewhere due to the use of different surveys. Data as of September 2019.
Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System.

Gross Domestic Product

Insurance Sector's Share Of Gross Domestic Product (GDP), 2014-2018

($ billions)

Year	Total GDP	Insurance carriers and related activities	
		GDP	Percent of total GDP
2014	$17,521.7	$485.2	2.8%
2015	18,219.3	542.2	3.0
2016	18,707.2	557.5	3.0
2017	19,485.4	540.8	2.8
2018	20,494.1	564.5	2.8

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

i

Gross domestic product (GDP) is the total value of all final goods and services produced in the economy. The GDP growth rate is the primary indicator of the state of the economy.

The insurance industry contributed $564.5 billion or 2.8 percent to the $20.5 trillion GDP in 2018.

Ownership Of Municipal Bonds

Insurance companies help fund the construction of schools, roads and healthcare facilities as well as a variety of other public sector projects through their investments in municipal bonds. The property/casualty insurance industry invested $294 billion in such bonds in 2018, and the life insurance industry invested $190 billion, according to the Federal Reserve. (See here and here for further information on insurance industry investments.)

Insurance Company Holdings Of U.S. Municipal Securities And Loans, 2014-2018

($ billions, end of year)

	2014	2015	2016	2017	2018
Property/casualty insurance companies	$339.6	$357.5	$350.7	$338.9	$293.8
Life insurance companies	164.4	177.3	185.2	197.8	190.4
Total	**$504.0**	**$534.8**	**$535.9**	**$536.7**	**$484.2**

Source: Board of Governors of the Federal Reserve System, June 6, 2019.

MERGERS AND ACQUISITIONS

The number of announced global insurance-related mergers and acquisitions (M&A) rose to 1,036 transactions in 2018 from 949 in 2017, and the value of those transactions increased to $150 billion in 2018, from $127 billion in 2017. According to Conning research, these increases reflect the expansion of its data sources that capture more non-U.S transactions. Common drivers in the property/casualty sector were economic challenges, pressures from the insurance cycle along with external factors such as regulation and technology. The most common themes were moves to focus on core business and to withdraw from underperforming lines of business. In the life/annuity sector in the United States the main drivers of M&A were scale, distribution and technology. Pressure on profitability resulting from low premium growth and other factors also came into play. Regulatory capital concerns were the major driver in Europe. Health/managed care deals were significantly lower in 2018 compared with 2017, largely resulting from regulatory uncertainty.

In 2018 the number of insurance-related deals in which a U.S. firm was either a buyer or a target rose 8.1 percent to 771 from 713 transactions in 2017. The value of properties acquired in 2018 U.S. deals fell 4.3 percent to $102 billion from $106 billion in 2017, according to Conning data. The number of non-U.S. insurance-related M&A transactions

(i.e., where a non-U.S. company was both buyer and seller) rose in 2018 to 265 from 235 in 2017, or 12.8 percent. The reported value of non-U.S. deals rose 135 percent to $47 billion in 2018 from $20 billion in 2017.

Reported Global Insurance-Related Mergers And Acquisitions By Sector, U.S. And Non-U.S. Acquirers, 2018

	Number of transactions			Transaction values ($ millions)[1]		
Sector	**U.S.[2]**	**Non-U.S.[3]**	**Total**	**U.S.[2]**	**Non-U.S.[3]**	**Total**
Underwriting						
Property/casualty	47	58	105	$17,068	$24,878	$41,946
Life/annuity	23	48	71	6,696	21,627	28,979
Health/managed care	8	5	13	2,516	292	2,808
Total	**78**	**111**	**189**	**$26,280**	**$46,797**	**$73,733**
Distribution and services						
Distribution	614	134	748	$7,085	$332	$7,417
Services	79	20	99	68,304	292	68,596
Total	**693**	**154**	**847**	**$75,389**	**$624**	**$76,013**
Total, all sectors	**771**	**265**	**1,036**	**$101,669**	**$47,421**	**$149,746**

[1]Components may not add to totals due to rounding. [2]Includes transactions where a U.S. company was the acquirer and/or the target. [3]Includes transactions where a non-U.S. company was the acquirer and the target.

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In 2018, three of the top 10 global transactions involved service companies, led by Cigna Corp.'s takeover of Express Scripts Holding Co., with an announced value of $54 billion. Led by this deal, the services sector accounted for about $66 billion in transaction value or 61 percent of the top 10 mergers and acquisitions that took place in 2018. The property/casualty sector, also with three deals in the top 10, accounted for 22 percent of the total dollars involved in mergers and acquisitions in 2018. Three life deals accounted for about 12 percent of the value of mergers and acquisition. The distribution sector had one deal in the top 10 in 2018 and accounted for the remaining 5 percent.

Top 10 Global Insurance-Related Mergers And Acquisitions Announced, 2018 ($ millions)

Rank	Buyer (country)	Target (country)	Sector	Transaction value
1	Cigna Corp. (U.S.)	Express Scripts Holding Co. (U.S.)	Services	$54,000
2	AXA SA (France)	XL Group Ltd. (Bermuda)	Property/casualty	15,300
3	The Carlyle Group (U.S.)	Sedgwick Claims Management (U.S.)	Services	6,700
4	Marsh & McLennan (U.S.)	Jardine Lloyd Thompson Group (U.K.)	Distribution	5,700
5	Invesco (U.S.)	Oppenheimer Funds (MassMutual) (U.S.)	Life	5,700
6	American International Group (U.S.)	Validis Holdings Ltd. (Bermuda)	Property/casualty	5,560
7	SS&C Technologies (U.S.)	DST Systems (U.S.)	Services	5,400
8	Phoenix Group Holdings (U.K.)	Standard Life Assurance Ltd. (U.K.)	Life	4,530
9	Lincoln National Corp. (U.S.)	Liberty Life Assurance Co. of Boston (U.S.)	Life	3,300
10	Evergreen Parent LP (U.S.)	AmTrust Financial Services Inc. (U.S.)	Property/casualty	2,950

Source: ©2019 Conning, Inc., 2019: Global Insurer Mergers & Acquisitions in 2018 - Focusing on the Core; ©2019 Conning, Inc., 2019: Global Insurance Distribution & Services Sector Mergers & Acquisitions in 2018 - Full Steam Ahead. Used with permission.

U.S. Insurance-Related Mergers And Acquisitions, 2009-2018[1] ($ millions)

Year	Underwriting mergers and acquisitions					
	Property/casualty		Life/annuity		Health/managed care	
	Number of transactions	Transaction values	Number of transactions	Transaction values	Number of transactions	Transaction values
2009	63	$3,507	22	$840	18	$640
2010	63	6,452	20	23,848	15	692
2011	79	12,796	33	3,058	24	4,703
2012	46	4,826	21	6,057	26	18,520
2013	41	4,393	18	3,298	15	33
2014	53	6,723	11	7,978	15	864
2015	35	39,970	18	10,228	21	9,603
2016	38	10,665	13	2,700	12	1,078
2017	37	7,404	21	5,796	17	75,954
2018	47	17,068	23	6,696	8	2,516

Year	Distribution and insurance services mergers and acquisitions				Total U.S. mergers and acquisitions	
	Distribution		Insurance services			
	Number of transactions	Transaction values	Number of transactions	Transaction values	Number of transactions	Transaction values
2009	176	$615	41	$8,771	320	$14,373
2010	244	1,727	97	13,823	439	46,542
2011	350	2,271	104	31,892	590	54,720
2012	345	4,225	62	9,673	479	43,301
2013	323	8,246	57	3,349	447	19,319
2014	387	2,581	79	19,390	507	37,536
2015	472	18,695	88	22,905	634	101,401
2016	450	4,204	77	3,461	499	22,108
2017	564	6,594	74	10,645	713	106,393
2018	614	7,085	79	68,304	771	101,669

[1]Components may not add to totals due to rounding. Includes transactions where a U.S. company was the acquirer and/or the target.

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2019 Outlook

In the property/casualty sector insurers are expected to continue to focus on their core business in 2019, according to Conning research. In the United States, increased state adoption of insurance business transfer rules that allow insurers to sell blocks of business without using reinsurance are expected to drive merger activity. As insurtechs introduce technology that aids insurers in serving customers and operating more efficiently, technology will become a stronger force in driving transactions. Since the industry is well capitalized, insurance market conditions are expected to contribute to increased M&A activity in 2019. In the life/annuity sector, insurers will begin adopting a new FASB (Financial Accounting Standards Board) rule that aims to improve and simplify accounting for long-term contracts. Since the rule affects many products and procedures, insurers may opt to close blocks of business or exit lines that may become volatile. Concerning the health/managed care sector, while legislation to amend the Affordable Care Act is not likely with a gridlocked Congress, regulation changes on the executive level are possible, creating instability. Setting the scene for the 2020 elections, politicians will probably explore health insurance issues, contributing to uncertainty. In the insurance services sector, those technology-centered companies that have proven effective and profitable models are expected to be targets for insurance distributors.

In the first half of 2019, there were four transactions in the property/casualty sector that were valued at over $100 million, according to Conning and Co. One of these, American Family's $1 billion acquisition of Ameriprise Auto & Home, was the only transaction valued at more than $1 billion, lagging behind first half 2018 when there were six billion-dollar transactions. In the life/annuity sector, there were no transactions. In the distribution sector, acquisition of insurance agents continued at a strong pace with seven companies announcing about a hundred combined acquisitions. Conning noted that companies use reinsurance to transfer blocks of business to free up capital to invest in more attractive lines of business. In the first half of 2019 there were three significant transactions that used reinsurance. In the health sector there were multiple transactions, most notably Centene Corp.'s intention to acquire WellCare Health Plans Inc., announced in March, for $17.3 billion, and to purchase two companies from Catholic Health Initiatives for an undisclosed amount. Also in the first half, Anthem Inc. announced its purchase of Beacon Health Options Inc.

COMPANIES BY STATE

An insurance company is said to be *domiciled* in the state that issued its primary license; it is *domestic* in that state. Once it receives its primary license, it may seek licenses in other states as an out-of-state insurer. These out-of-state insurers are called *foreign* insurers. An insurer incorporated in a foreign country is called an *alien* insurer in states where it is licensed.

Domestic Insurance Companies By State, Property/Casualty And Life/Annuity, 2018

State	Property/ casualty	Life/ annuity	State	Property/ casualty	Life/ annuity
Alabama	19	7	Montana	13	1
Alaska	4	0	Nebraska	36	34
Arizona	40	25	Nevada	11	0
Arkansas	12	24	New Hampshire	48	1
California	99	14	New Jersey	65	3
Colorado	10	10	New Mexico	19	0
Connecticut	64	26	New York	171	82
Delaware	100	25	North Carolina	53	10
D.C.	7	0	North Dakota	11	3
Florida	116	9	Ohio	145	38
Georgia	23	13	Oklahoma	31	24
Hawaii	16	4	Oregon	17	3
Idaho	10	1	Pennsylvania	163	22
Illinois	195	51	Rhode Island	24	2
Indiana	61	26	South Carolina	20	6
Iowa	74	42	South Dakota	15	2
Kansas	25	11	Tennessee	15	10
Kentucky	8	6	Texas	200	123
Louisiana	34	30	Utah	10	17
Maine	12	3	Vermont	12	1
Maryland	29	4	Virginia	19	3
Massachusetts	48	16	Washington	6	6
Michigan	65	21	West Virginia	19	1
Minnesota	39	8	Wisconsin	167	17
Mississippi	15	14	Wyoming	2	0
Missouri	44	28	**United States[1]**	**2,507**	**841**

[1]Excludes territories. Excludes health insurers, risk retention groups, fraternals, title and other insurers.

Source: Insurance Department Resources Report, 2019 published by the National Association of Insurance Commissioners (NAIC).

According to the National Association of Insurance Commissioners, in the U.S. (including territories) there were 5,965 insurance companies in 2018, including property/ casualty (2,507), life/ annuity (841), health (931), fraternal (82), title (60), risk retention groups (239) and other companies (1,305).

Many insurance companies are part of larger organizations. According to A.M. Best, in 2018 the P/C insurance industry was comprised of about 1,131 organizations or groups (as opposed to 2,602 companies), including 655 stock (or public) organizations, 372 mutual organizations (firms owned by their policyholders), 85 reciprocals (a type of self-insurance) and seven Lloyd's organizations. The remainder consisted of state funds.

PREMIUM TAXES BY STATE

All insurance companies pay a state tax based on their premiums. Other payments are made to states for licenses and fees, income and property taxes, sales and use taxes, unemployment compensation taxes and franchise taxes.

Insurance companies, including life/annuity, health, property/casualty and other companies, paid $22.5 billion in premium taxes to the 50 states and the District of Columbia in 2018. On a per capita basis, this works out to $69 for every person living in the United States.

Premium taxes accounted for 2.2 percent of all taxes collected by the states and the District of Columbia in 2018.

Premium Taxes By State, Property/Casualty, Life/Annuity and Health Insurers, 2018 (1)

($000)

State	Amount	State	Amount
Alabama	$376,766	Montana	$110,827
Alaska	62,429	Nebraska	62,662
Arizona	550,438	Nevada	395,701
Arkansas	223,362	New Hampshire	111,972
California	2,569,271	New Jersey	614,072
Colorado	262,411	New Mexico	169,355
Connecticut	209,026	New York	1,623,191
Delaware	110,292	North Carolina	589,037
D.C.	115,290	North Dakota	63,274
Florida	1,084,872	Ohio	582,794
Georgia	505,054	Oklahoma	328,756
Hawaii	165,602	Oregon	70,903
Idaho	97,359	Pennsylvania	836,186
Ilinois	456,406	Rhode Island	81,519
Indiana	236,175	South Carolina	239,215
Iowa	114,363	South Dakota	92,488
Kansas	408,321	Tennessee	970,831
Kentucky	165,161	Texas	2,445,005
Louisiana	870,872	Utah	135,180
Maine	99,654	Vermont	59,370
Maryland	541,758	Virginia	516,743
Massachusetts	406,251	Washington	630,657
Michigan	395,999	West Virginia	169,607
Minnesota	519,547	Wisconsin	207,729
Mississippi	338,576	Wyoming	23,481
Missouri	464,418	**United States**	**$22,480,228**

[1]Includes other insurance companies. Data are for each state's fiscal year.

Source: U.S. Department of Commerce, Bureau of the Census.

Chapter 3

Distribution

PROPERTY/CASUALTY

Overview

Many insurance companies use a number of different channels to distribute their products. In the early days of the U.S. insurance industry, insurers hired agents, often on a part-time basis, to sign up applicants for insurance. Some agents, known now as *captive* or *exclusive* agents, represented a single company. Others, the equivalent of today's independent agents, worked for a number of companies. At the same time that the two agency systems were expanding, commercial insurance brokers, who were often underwriters, began to establish themselves. While agents usually represented insurers, brokers represented clients who were buying insurance. These three distribution channels (captive agents, independent agents and brokers) exist in much the same form today. Also, with the development of information technology, alternative distribution channels sprang up, including direct sales by telephone, mail and the internet. Insurers also use other types of outlets, such as banks, workplaces, associations and car dealers, to access potential policyholders.

Online Property/Casualty Insurance Sales

Online insurance distribution systems have evolved to include any device consumers use to conduct business—mobile devices, tablets and PCs. However, there is ongoing evidence that insurer websites are not meeting customer expectations, according to the J.D. Power and Associates *2018 Insurance Digital Experience Study*. J.D. Power included customers of the 19 largest property/casualty insurance companies and used responses from over 11,000 people in February and March 2018. The study found that insurance customer expectations are being influenced by the user experience of all-digital brands such as Amazon and Netflix, and many customers report that insurers are falling short. Insurers have created attractive user interfaces but these lack functionality, for example when processing claims, servicing policies or shopping. Overall insurance shopping experience was measured on a 1,000-point scale. The industry average was 779, driven by strong performance in three key shopping factors—ease of navigation, availability of key information and the clarity of that information.

Consumer appetite for digital experiences seems to be growing, according to a 2018 survey from the Insurance Research Council (IRC) which polled 2,000 people online about their auto insurance preferences. Of the 69 percent of respondents who said they had communicated with their auto insurer in the previous year to perform various tasks, most said they had communicated by phone. Checking claim status and obtaining a certificate of insurance were the only tasks where 30 percent or more used a digital method, defined as email, website or a mobile app. For almost every task covered by the survey there were more people who indicated a preference for using digital methods in the future than those who reported using digital methods in the previous year.

The Insurance Information Institute's 2018 *Pulse* poll found that among the 50 percent of policyholders who compared prices for auto insurance at renewal, 25 percent of respondents said they went online to compare prices. Searching online had about the same popularity as talking to an agent in person (26 percent of respondents), and speaking to an agent or insurance company by phone (28 percent). (Respondents could report more than one

method.) Of those auto insurance customers who compared prices online, millennials ages 20 to 37 were the most likely to use this method—36 percent, compared with 18 percent of Gen Xers (ages 38 to 53) and 19 percent of baby boomers (ages 54 to 72). Of note, the 2018 results showed that fewer auto policyholders overall had checked prices than in 2015, when 69 percent of auto insurance customers compared prices. Consumer preferences have changed as well: in 2015, 50 percent of respondents chose talking to an agent in person, while 39 percent went online and 37 percent used a telephone. Again, respondents could choose more than one method.

There were an estimated 36,500 independent agencies in the United States in 2018, down from 38,000 in 2016, according to the Independent Insurance Agents and Brokers of America's (IIABA) *2018 Agency Universe Study.*

The IIABA says the 2018 decrease primarily reflects a new data resource providing more accurate and insurance industry-focused data, along with increased mergers and acquisitions.

In 2018 the estimated percentage of small agencies (less than $150,000 in revenue) accounted for 35 percent of all agencies, while jumbo agencies (revenue of $10 million or more) accounted for 2 percent of agencies.

The proportion of agencies in small towns and rural areas returned to 19 percent in 2018, where it had been in 2014, after falling to 9 percent in 2016. About half of agencies are in large metropolitan areas.

In 2018, 12 percent of the agencies in the study were involved in acquisitions, 1 percent merged with another agency, and 3 percent converted from exclusive or captive agencies to independent agencies.

Property/Casualty Insurance Distribution

Agency writers, whose products are sold by independent agents or brokers representing several companies—and direct writers, which sell their own products through captive agents by mail, telephone, or via the internet and other means—each account for about half of the property/casualty (P/C) market. There is a degree of overlap as many insurers use multiple channels.

A.M. Best organizes insurance into two main distribution channels: agency writers and direct writers. Its agency writers category includes insurers that distribute through independent agencies, brokers, general agents and managing general agents. Its direct writers category includes insurers that distribute through the internet, exclusive/captive agents, direct response and affinity groups.

- In 2018 direct writers accounted for 51.4 percent of P/C insurance net premiums written and agency writers accounted for 47.7 percent, according to A.M. Best.*
- In the personal lines market, direct writers accounted for 69.5 percent of net premiums written in 2018 and agency writers accounted for 29.8 percent. Direct writers accounted for 66.5 percent of the homeowners market and agency writers accounted for 31.6 percent. Direct writers accounted for 70.8 percent of the personal auto market and agency writers accounted for 29.0 percent.*
- Agency writers accounted for 70.8 percent of commercial P/C net premiums written, and direct writers accounted for 27.9 percent.*

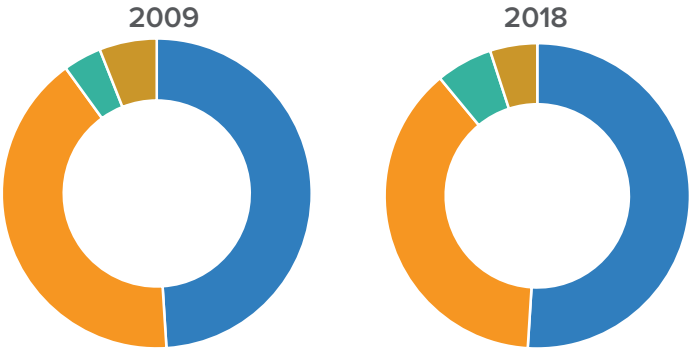
*Unspecified distribution channels accounted for the remainder.

LIFE

Life Insurance Distribution

Independent insurance agents have held more than half of the individual life insurance market over the 10 years from 2009 to 2018, but affiliated agents have lost some ground, as shown in the chart below.

Life Individual Market Share By Distribution Channel, 2009 and 2018



	2009	2018
Independent agents[1]	49%	51%
Affiliated agents[2]	41	38
Direct response[3]	4	6
Other[4]	6	5

[1]Includes brokers, broker-dealers, personal producing general agents and registered investment advisers. [2]Includes agency building, multiline exclusive and home service agents. [3]No producers are involved. Excludes direct marketing efforts involving agents. Includes internet sales where consumers submit online applications. [4]Includes financial institutions, worksite and other channels.

Source: *U.S. Individual Life Insurance Sales Trends, Industry Estimates, 1975-2018*, LIMRA, 2019.

Online Life Insurance Sales

Online life insurance sales may have peaked. The *2019 Insurance Barometer Study* from the Life and Health Insurance Foundation for Education (LIFE) and LIMRA found that 19 percent of consumers purchased individual life insurance products at a company website, while 23 percent obtained a quote by this channel. Other channels are more popular, such as direct by phone, where 30 percent of consumers purchased life insurance, followed closely by direct from mail (29 percent) and through financial professionals (27 percent). The *2018 Insurance Barometer Study* from LIFE and LIMRA found that online life insurance purchase attempts had leveled off in 2018 compared with 2017. In 2018, 31 percent of respondents to the Insurance Barometer study said they had purchased or attempted to purchase life insurance online, about the same proportion as in 2017. A year before that, the Insurance Barometer Study reported that purchase attempts had tripled between 2011 and 2017. However, fewer consumers visited life insurance websites in 2018, 49 percent compared with 55 percent in 2017, and 45 percent visited a website to obtain information about life insurance in 2018, down from 52 percent in 2017.

Millennials, between the ages of 19 and 37, and Gen Xers ages 38 to 53, had the highest rates of visiting life insurance company websites according to the 2018 study, both at 52 percent. The proportion of older consumers, baby boomers and silents, age 54 and older, visited these websites at the lower rates of 45 and 40 percent. Forty-one percent of millennials said they had purchased, or attempted to purchase life insurance online in 2018, compared with 33 percent of Gen Xers. These proportions declined steadily among older respondents, to 22 percent and 13 percent of boomers and of silents.

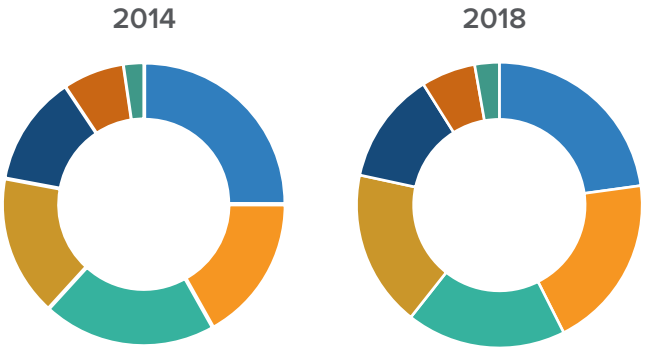
Despite the popularity of visiting life insurance company websites to research insurance most consumers still want personal contact when they buy insurance. Sixty-nine percent of all respondents say meeting with an insurance professional is important to them before they buy life insurance. Millennials rank highest in thinking that meeting a professional is important, at 73 percent followed by baby boomers at 69 percent.

ANNUITIES

Annuities Distribution

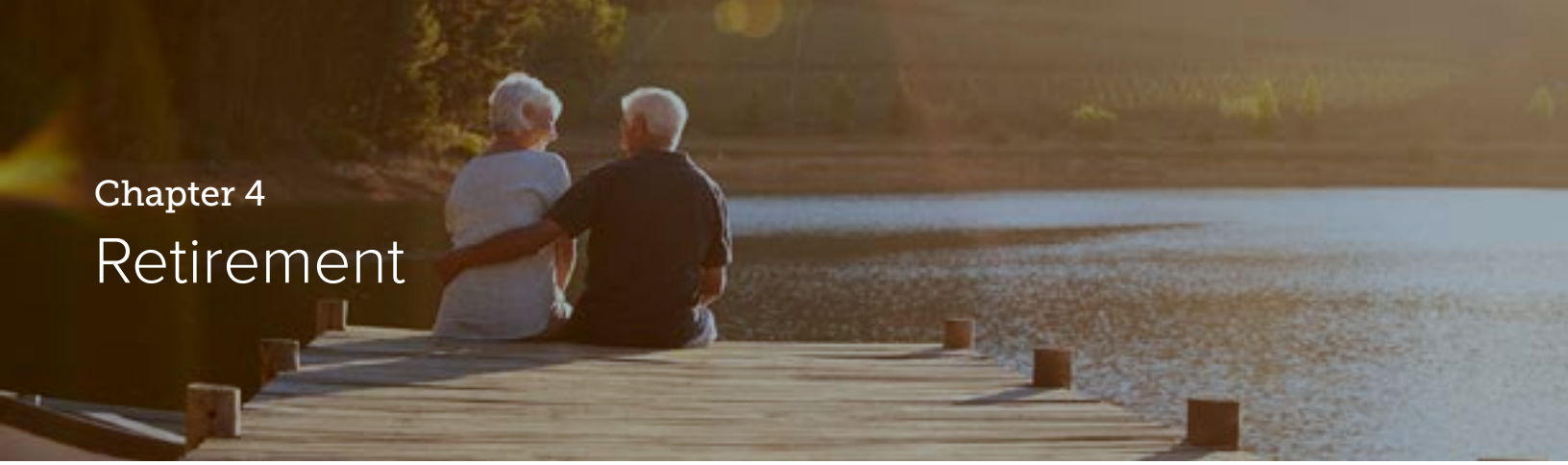
Total U.S. individual annuity sales rose in 2018 by $30 billion, or 15 percent, after falling for three consecutive years. Independent broker-dealers were the largest single distributor of annuities, with 23 percent of sales, down slightly in share from 2014 when they accounted for 25 percent of the market. Independent agents commanded the second-largest share of annuity sales by channel with 20 percent in 2018, up from 17 percent in 2014. State and federal regulators require sellers of variable annuities to register with the Financial Industry Regulatory Authority and the Securities and Exchange Commission.

Sales Of Individual Annuities By Distribution Channels, 2014 and 2018



	2014	2018
Independent broker-dealers	25%	23%
Independent agents	17	20
Career agents	20	18
Banks	16	18
Full-service national broker-dealers	13	13
Direct response	7	6
Other	2	3

Source: *U.S. Individual Annuities,* 2018 Year in Review, LIMRA, 2019.



Chapter 4

Retirement

OVERVIEW

In addition to Social Security and private savings, many Americans rely on investments in formal plans to prepare for retirement. Employer-sponsored retirement plans, individual retirement accounts (IRAs) and annuities play an important role in the U.S. retirement system. Such retirement assets totaled $27.1 trillion at the end of 2018, down from $28.4 trillion during the same period in 2017, according to the Investment Company Institute (ICI). At the close of 2018, the largest components of retirement assets were IRAs and employer-sponsored defined contribution plans, holding $8.8 trillion and $7.5 trillion, respectively. An ICI report found that 62 percent of U.S. households (79 million) reported that they had employer-sponsored retirement plans, IRAs, or both in 2018.

U.S. Retirement Assets, 2014 And 2018 ($ trillions, year-end)

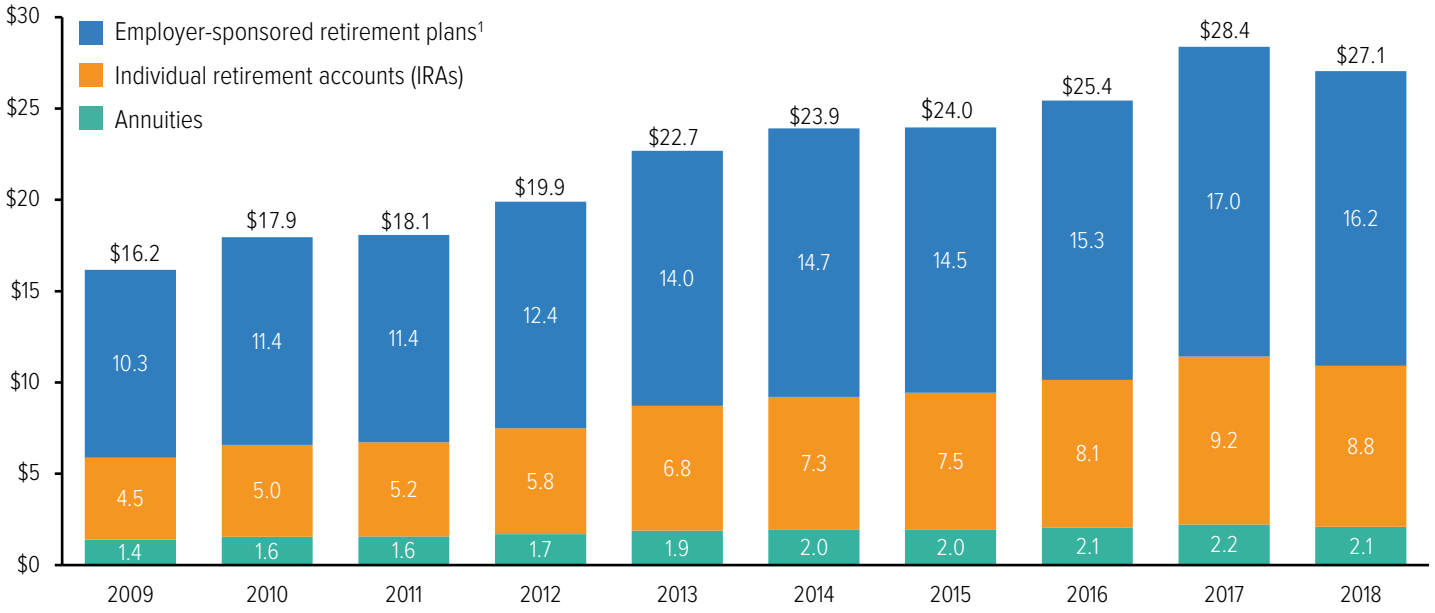
	2014		2018	
Individual retirement accounts	30%	$7.3	33%[1]	$8.8[1]
Defined contribution plans	27	6.5	28	7.5
State and local pension plans	16	3.7	14	3.9
Private defined benefit plans	13	3.0	11	2.9
Annuities	8	2.0	8	2.1
Federal pension plans	6	1.4	7	1.8
Total	**100%**	**$23.9**	**100%**	**$27.1**

[1]Estimated.

Source: Investment Company Institute. 2019. *2019 Investment Company Fact Book: A Review of Trends and Activities in the U.S. Investment Company Industry*. Washington, D.C. Investment Company Institute. www.icifactbook.org.

In 2018, 59.7 percent of Americans' retirement assets were held in private or public employer-sponsored plans, according to the ICI. These workplace plans include private pension plans, defined contribution plans such as 401(k) plans and state, local and federal pension plans. One-third of all retirement assets were in individual retirement accounts (IRAs) and 7.8 percent were in annuities. By contrast, in 2009, 63.5 percent of the nation's retirement assets were held in private or public employer-sponsored plans, 27.7 percent were held in IRAs, and 8.8 percent were held in annuities. In 2018, 56 percent of households had employer-sponsored benefit plans. Thirty-three percent had assets in IRAs, and 27 percent had both IRAs and employer-sponsored retirement plans.

U.S. Retirement Assets, By Type, 2009-2018 ($ trillions, end of year)



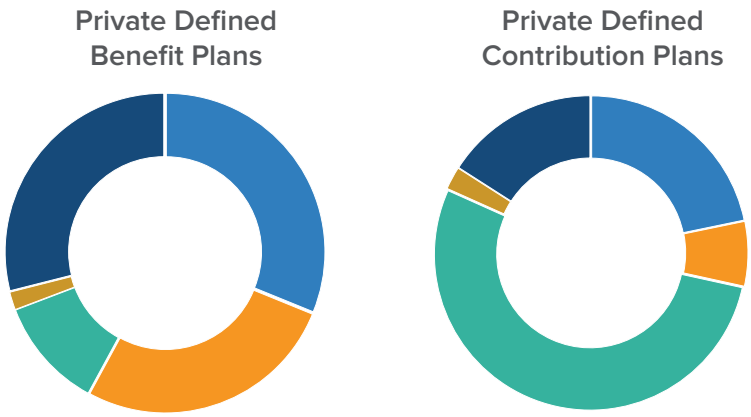
[1]Includes defined contribution plans, private defined benefit plans, and state, local and federal pension plans.

Source: Investment Company Institute. 2019. *2019 Investment Company Fact Book: A Review of Trends and Activities in the U.S. Investment Company Industry*. Washington, D.C. Investment Company Institute. www.icifactbook.org.

Defined Benefit And Defined Contribution Retirement Plans

There are two basic types of workplace retirement plans: defined benefit and defined contribution plans. In a defined benefit plan, the income the employee receives in retirement is guaranteed, based on predetermined benefit formulas. These include pension plans or qualified benefit plans. In a defined contribution plan, a type of savings plan in which taxes on earnings are deferred until funds are withdrawn, the amount of retirement income depends on the contributions made and the earnings generated by the securities purchased. The employer generally matches the employee contribution up to a certain level, and the employee selects investments from among the options the employer's plan offers. 401(k) plans fall into this category, as do 403(b) plans for nonprofit organizations and 457 plans for government workers.

Retirement Funds Asset Mix, 2018



	Private Defined Benefit Plans	Private Defined Contribution Plans
Equities	31%	22%
Credit market instruments	27	7
Mutual funds	11	53
Cash, etc.	2	2
Other	29	16
Total	**100%**	**100%**

Source: Board of Governors of the Federal Reserve System, June 6, 2019.

In defined benefit plans, equities held the largest share by type of investment in 2018, with 31 percent, followed by other assets, such as guaranteed investment contracts, with 29 percent and credit market instruments, with 27 percent.

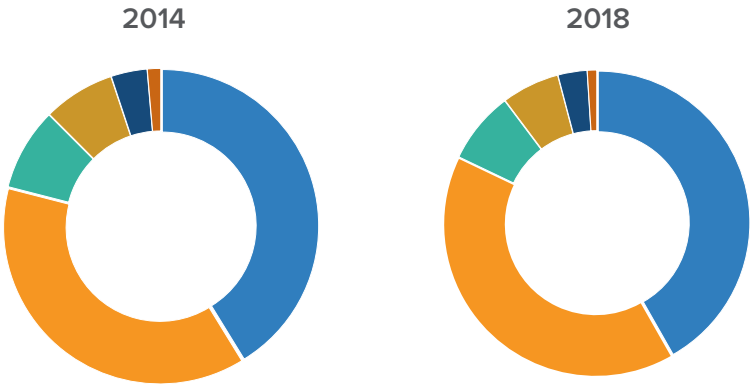
In defined contribution plans, mutual funds held the largest share, with 53 percent. Equities ranked second, with 22 percent, followed by other assets with 16 percent.

Traditional IRAs are defined as those first allowed under the Employee Retirement Income Security Act of 1974.

IRAs

An individual retirement account (IRA) is a personal savings plan that allows individuals to set aside money for retirement, while offering tax advantages. Funds in a traditional IRA, including earnings, generally are not taxed until distributed to the holder. Unlike traditional IRAs, Roth IRAs do not allow holders to deduct contributions, but qualified distributions are tax-free. Other variations include Simplified Employee Pensions (SEP), which enable businesses to contribute to traditional IRAs set up for their workers, Savings Incentive Match Plans for Employees (SIMPLE) plans and Keogh plans for the self-employed. According to the Investment Company Institute, almost 43 million households had at least one type of IRA in 2018. Of these, 33 million households had traditional IRAs, 23 million had Roth IRAs and nearly 8 million had a SEP, SIMPLE or other employer-sponsored IRA.

IRA Market Shares By Holder, 2014 And 2018 (Market value, end of year)



	2014	2018
Miscellaneous self-directed accounts	39.4%	43.7%
Mutual funds[1]	42.9	39.9
Life insurance companies[2]	7.8	6.9
U.S.-chartered depository institutions[3]	5.9	5.6
Money market mutual funds	3.0	3.0
Credit unions[2]	1.1	0.9
Total	**100.0%**	**100.0%**

[1]Excludes variable annuities. [2]Includes Keogh accounts. [3]Includes savings banks, commercial banks and Keogh accounts.
Source: Board of Governors of the Federal Reserve System, June 6, 2019.

401(k)s

A 401(k) plan is a retirement plan offered by an employer to its workers, allowing employees to set aside tax-deferred income for retirement purposes. It is a type of defined contribution plan. With $5.2 trillion in assets at year-end 2018, 401(k) plans held the largest share of employer-sponsored defined contribution plan assets, according to the Investment Company Institute (ICI). At the end of 2018 employer-sponsored defined contribution plans, including 401(k) plans and other defined contribution plans, held an estimated $7.5 trillion in assets, according to the ICI. The chart below shows the distribution of assets for 401(k)s in 2016, the latest data available.

Average Asset Allocation For All 401(k) Plan Balances, 2016[1]

Equity funds	44%
Balanced funds	27
Bond funds	8
Company stock	6
Guaranteed investment contracts and other stable value funds	6
Money funds	3
Other and unknown	6
Total	**100%**

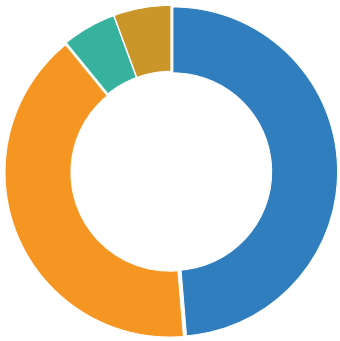
[1]Percentages are dollar-weighted averages.

Source: Investment Company Institute, Holden, Sarah, Jack VanDerhei, Luis Alonso, and Steven Bass. 2018. "401(k) Plan Asset Allocation, Account Balances, and Loan Activity in 2016." ICI Research Perspective 24, no. 6 (September). https/www.ici.org/pdf/per/24-06.pdf.

MUTUAL FUNDS

Mutual funds held in employer-sponsored defined contribution plans and IRAs accounted for $8.2 trillion, or 30 percent, of the $27.1 trillion U.S. retirement market at the end of 2018, according to the Investment Company Institute.

Mutual Fund Retirement Assets By Type Of Plan, 2018[1] ($ billions, end of year)



IRAs	48.7%	$3,976
401(k) plans	40.4	3,302
403(b) plans	5.3	432
Other defined contribution plans	5.6	458
Total	**100.0%**	**$8,168**

At the end of 2018, 43 percent of mutual fund assets was invested in domestic equity funds, 14 percent in foreign equity funds, 24 percent in hybrid funds, 15 percent in bond funds and 5 percent in money market funds.

[1]Preliminary data. Excludes defined benefit plans.

Source: Investment Company Institute. 2019. *2019 Investment Company Fact Book: A Review of Trends and Activities in the U.S. Investment Company Industry.* Washington, D.C. Investment Company Institute. www.icifactbook.org.

ANNUITIES

Sales Of Fixed And Variable Annuities

Annuities play an important role in retirement planning by helping individuals guard against outliving their assets. In the most general sense, an annuity is an agreement for an entity (generally a life insurance company) to pay another entity a series of payments. While there are many types of annuities, key features can include tax savings, protection from creditors, investment options, lifetime income and benefits to heirs.

Among the most common types of annuities are fixed and variable. Fixed annuities guarantee the principal and a minimum rate of interest. Generally, interest credited and payments made from a fixed annuity are based on rates declared by the company, which can change only yearly. In contrast, variable annuity account values and payments are based on the performance of a separate investment portfolio; thus their value may fluctuate daily.

There is a variety of fixed annuities and variable annuities. One type of fixed annuity, the equity-indexed annuity, contains features of fixed and variable annuities. It provides a base return, just as other fixed annuities do, but its value is also based on the performance of a specified stock index. The return can go higher if the index rises. The 2010 Dodd-Frank Act included language keeping equity-indexed annuities under state insurance regulation. Variable annuities are subject to both state insurance regulation and federal securities regulation. Fixed annuities are not considered securities and are only subject to state insurance regulation.

Annuities can be deferred or immediate. Deferred annuities generally accumulate assets over a long period of time, with withdrawals taken as a single sum or as an income payment beginning at retirement. Immediate annuities allow purchasers to convert a lump-sum payment into a stream of income that begins right away. Annuities can be written on an individual or group basis. (See the Life/Annuity Premiums by Line table.)

Annuities can be used to fund structured settlements, arrangements in which an injury victim in a lawsuit receives compensation in a number of tax-free payments over time, rather than as a lump sum.

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Individual variable annuity sales in the United States rose 2.0 percent in 2018, after falling 6.2 percent the previous year. Fixed annuity sales grew much faster, 26.9 percent in 2018, after falling 10.3 percent in 2017.

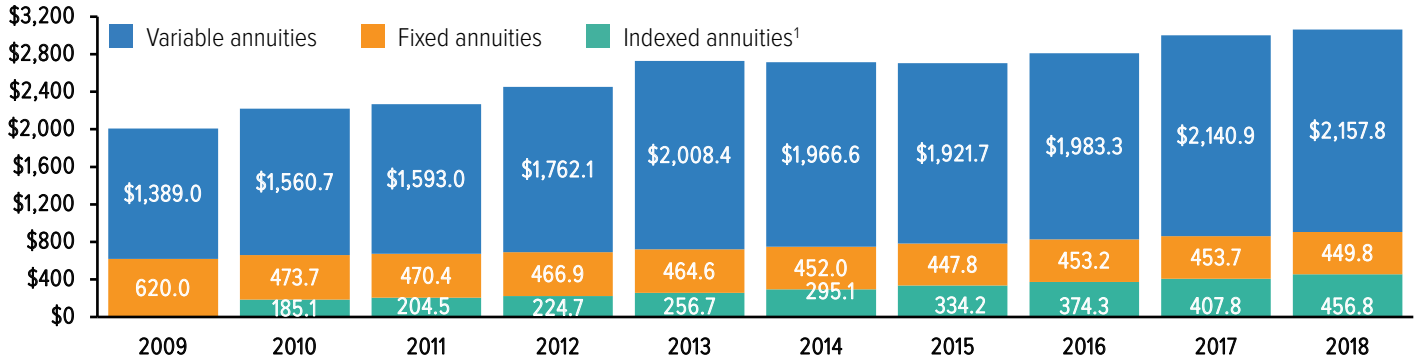
Individual Annuity Considerations, 2014-2018[1] ($ billions)

Year	Variable	Fixed	Total	
			Amount	Percent change from prior year
2014	$140.1	$96.9	$237.0	3.1%
2015	133.0	102.7	235.7	-0.5
2016	104.7	117.4	222.1	-5.8
2017	98.2	105.3	203.5	-8.4
2018	100.2	133.6	233.8	14.9

[1]Based on LIMRA's estimates of the total annuity sales market. Includes some considerations (i.e. premiums) that though bought in group settings involve individual buying decisions.

Source: *U.S. Individual Annuities, 4th Quarter 2018*, LIMRA, 2019.

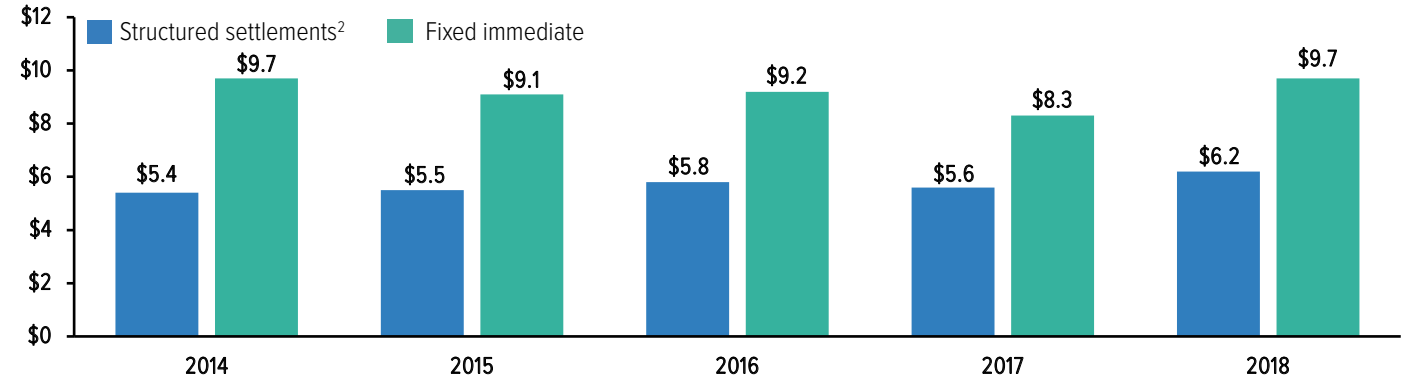
Deferred Annuity Assets, 2009-2018 ($ billions, end of year)



[1]Not reported before 2010.

Source: *U.S. Individual Annuities, 4th Quarter 2018*, LIMRA, 2019.

Individual Fixed Annuity Sales, 2014-2018[1] ($ billions)



[1]Includes variable individual annuities sales which were less than $100 million. [2]Single premium contracts bought by property/casualty insurers to distribute awards in personal injury or wrongful death lawsuits over a period of time, rather than as lump sums.

Source: *U.S. Individual Annuities, 2018 Year in Review,* LIMRA, 2019.

Top 10 Writers Of Annuities By Direct Premiums Written, 2018[1] ($000)

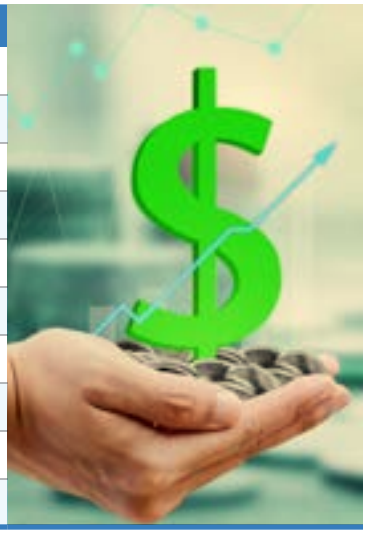
Rank	Group/company	Direct premiums written	Market share[2]
1	American International Group (AIG)	$18,368,222	6.8%
2	Jackson National Life Group	17,634,968	6.5
3	Prudential Financial Inc.	17,618,818	6.5
4	Lincoln National Corp.	16,964,347	6.3
5	TIAA	15,065,852	5.6
6	New York Life Insurance Group	11,818,327	4.4
7	Allianz	11,616,458	4.3
8	Voya Financial Inc.	11,170,409	4.1
9	AXA	10,857,006	4.0
10	Athene Holding Ltd.	10,282,175	3.8

[1]Includes individual and group annuities. [2]Based on U.S. total, includes territories.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Top 10 Writers Of Individual Annuities By Direct Premiums Written, 2018 ($000)

Rank	Group/company	Direct premiums written	Market share[1]
1	American International Group (AIG)	$15,486,151	7.8%
2	Jackson National Life Group	15,414,642	7.8
3	Lincoln National Corp.	13,163,589	6.7
4	Allianz	11,616,458	5.9
5	New York Life Insurance Group	11,114,465	5.6
6	Pacific Life	8,446,347	4.3
7	Prudential Financial Inc.	8,036,598	4.1
8	Global Atlantic	7,857,397	4.0
9	AXA	7,856,914	4.0
10	Athene Holding Ltd.	7,697,089	3.9



[1]Based on U.S. total, includes territories.
Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Top 10 Writers Of Group Annuities By Direct Premiums Written, 2018 ($000)

Rank	Group/company	Direct premiums written	Market share[1]
1	Voya Financial Inc.	$10,877,710	14.9%
2	Prudential Financial Inc.	9,582,220	13.1
3	TIAA	8,369,865	11.5
4	MetLife Inc.	7,542,560	10.3
5	Great-West	4,022,640	5.5
6	Lincoln Financial	3,800,758	5.2
7	OneAmerica Financial Partners, Inc.	3,222,173	4.4
8	AXA	3,000,092	4.1
9	American International Group (AIG)	2,882,071	3.9
10	Principal Financial Group Inc.	2,664,125	3.6

[1]Based on U.S. total, includes territories.
Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Chapter 5

Life/Annuity Financial Data

FINANCIAL RESULTS

Life/Annuity Sector

Traditional life insurance is no longer the primary business of many companies in the life insurance industry. The emphasis has shifted to the underwriting of annuities, which accounted for 48 percent of life/annuity direct premiums written in 2018. Annuities are contracts that accumulate funds or pay out a fixed or variable income stream. An income stream can be for a set time period or over the lifetimes of the contract holder or beneficiaries. Accident and health insurance, which includes distinctive products apart from traditional health insurance, accounts for 27 percent of direct premiums written. Traditional life insurance products such as universal life and term life for individuals, and group life, remain an important part of the business, making up the remaining 25 percent of direct premiums written. In addition to annuities, accident and health, and life insurance products, life insurers may offer other types of financial services such as asset management.

Traditional health insurance, which is not included in this section and are not considered a part of the life/annuity sector, are described under Private Health Insurance. Health insurance pays for medical, surgical and hospital services received by the insured, as well as routine and preventive care, usually within a network format. Of the many types of plans available, most include a deductible paid by the insured, and benefits received are tax-free. Accident insurance and health insurance, which is included in the life/annuity and property/casualty (P/C) sectors, encompass a variety of specialty products related to health, such as reimbursement for the time a policyholder spent in a hospital or was disabled; short- and long-term disability based on employment; long-term care, and critical or catastrophic illness insurance. Accident and health insurance are not meant to replace health insurance.

2018 Financial Results

According to S&P Global Market Intelligence, in 2018 net income after taxes for the life/annuity insurance industry fell 10.0 percent to $37.9 billion, from $42.1 billion in 2017. Net income before capital gains fell 15.8 percent in 2018 from 2017, and a net realized capital gains loss of $4.7 billion contributed to lower net income. Premiums and annuity considerations rose slightly in 2018, up 1.3 percent from 2017, as annuity premiums and deposits fell 6.1 percent. Expenses grew by 10.8 percent in 2018 following a drop in 2017. Capital and surplus rose to $400.0 billion in 2018 from $394.9 billion in 2017, according to S&P Global Market Intelligence.

Life/Annuity Insurance Income Statement, 2014-2018 ($ billions, end of year)

	2014	2015	2016	2017	2018	Percent change 2017-2018[1]
Revenue						
Life insurance premiums	$133.9	$151.4	$115.0	$137.1	$145.4	6.0%
Annuity premiums and deposits	352.8	324.0	318.5	287.2	269.7	-6.1
Accident and health premiums	156.6	158.8	162.8	169.3	184.2	8.8
Credit life and credit accident and health premiums	1.4	1.4	1.3	1.3	1.3	4.1
Other premiums and considerations	2.6	2.5	2.2	2.1	4.0	90.1
Total premiums, consideration and deposits	**$647.3**	**$638.2**	**$599.9**	**$597.1**	**$604.6**	**1.3%**
Net investment income	171.7	170.8	173.0	182.3	187.4	2.8
Reinsurance allowance	-15.0	-86.4	-17.0	-25.1	32.0	NA
Separate accounts revenue	34.3	35.2	34.7	36.6	37.3	2.0
Other income	39.7	90.5	61.3	49.0	44.0	-10.2
Total revenue	**$878.0**	**$848.2**	**$851.9**	**$839.8**	**$905.4**	**7.8%**
Expense						
Benefits	251.8	263.9	271.4	281.4	290.7	3.3
Surrenders	281.5	273.0	265.1	308.9	350.3	13.4
Increase in reserves	108.7	80.5	133.1	106.4	143.4	34.8
Transfers to separate accounts	-16.5	36.9	-38.0	-65.8	-89.6	NA
Commissions	52.1	55.5	64.6	58.0	58.4	0.6
General and administrative expenses	59.0	60.1	62.4	65.9	66.0	0.1
Insurance taxes, licenses and fees	10.0	10.5	10.8	8.8	10.8	22.0
Other expenses	66.0	-4.9	-2.7	-4.3	11.3	NA
Total expenses	**$812.5**	**$775.5**	**$766.6**	**$759.3**	**$841.1**	**10.8%**
Net income						
Policyholder dividends	16.4	18.3	18.2	17.5	18.2	4.0
Net gain from operations before federal income tax	49.0	54.4	67.1	63.0	46.0	-26.9
Federal income tax	10.1	10.6	16.3	12.4	3.4	-72.3
Net income before capital gains	**$38.9**	**$43.8**	**$50.8**	**$50.6**	**$42.6**	**-15.8%**
Net realized capital gains (losses)	-1.3	-3.5	-11.4	-8.6	-4.7	NA
Net income	**$37.6**	**$40.3**	**$39.4**	**$42.1**	**$37.9**	**-10.0%**
Pre-tax operating income	49.0	54.4	67.1	63.0	46.0	-26.9
Capital and surplus, end of year	354.0	367.2	380.7	394.9	400.0	1.3

[1]Calculated from unrounded data. NA=Not applicable.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Annuities are the largest life product line as measured by direct premiums written and accounted for 48 percent of direct premiums written by life insurers in 2018. Accident and health insurance accounted for 27 percent of direct premiums written. Accident and health insurance, not to be confused with traditional health insurance, includes reimbursement for certain medical expenses. These include: short- and long-term disability; critical or catastrophic illness insurance; and long-term care. Life insurance accounted for the remaining 25 percent of direct premiums written. Life insurance policies can be sold on an individual, or ordinary, basis or to groups such as employees and associations. Other lines include credit life, which pays the balance of a loan if the borrower dies or becomes disabled and industrial life, small policies whose premiums are generally collected by an agent on a weekly basis.

Direct Premiums Written By Line, Life/Annuity Insurance, 2016-2018 ($000)

Lines of insurance	2016		2017		2018	
	Direct premiums written[1]	Percent of total	Direct premiums written[1]	Percent of total	Direct premiums written[1]	Percent of total
Annuities						
Ordinary individual annuities	$197,026,489	28.8%	$181,849,769	26.3%	$207,806,482	28.3%
Group annuities	129,332,100	18.9	134,348,059	19.4	146,170,467	19.9
Total	**$326,358,589**	**47.8%**	**$316,197,828**	**45.7%**	**$353,976,949**	**48.3%**
Life						
Ordinary life	139,782,420	20.5	143,537,902	20.8	142,275,947	19.4
Group life	36,427,380	5.3	39,856,057	5.8	38,489,232	5.2
Credit life (group and individual)	828,632	0.1	808,621	0.1	814,935	0.1
Industrial life	129,303	[2]	123,394	[2]	107,475	[2]
Total	**$177,167,735**	**25.9%**	**$184,325,974**	**26.7%**	**$181,687,589**	**24.8%**
Accident and health[3]						
Group	115,363,684	16.9	126,290,331	18.3	134,735,315	18.4
Other	63,637,078	9.3	63,725,795	9.2	61,941,132	8.4
Credit	822,146	0.1	830,946	0.1	852,520	0.1
Total	**$179,822,908**	**26.3%**	**$190,847,071**	**27.6%**	**$197,528,967**	**26.9%**
All other lines	3,315	[2]	3,839	[2]	4,723	[2]
Total, all lines[4]	**$683,352,546**	**100.0%**	**$691,374,713**	**100.0%**	**$733,198,228**	**100.0%**

[1]Before reinsurance transactions. [2]Less than 0.1 percent. [3]Excludes accident and health premiums reported on the property/casualty and health annual statements. [4]Excludes deposit-type funds.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

INVESTMENTS

Life/annuity and P/C insurers are key players in capital markets, with $8.3 trillion in cash and invested assets in 2018, according to S&P Global Market Intelligence. Life insurance, and annuity cash and invested assets totaled $4.1 trillion in 2018, and separate accounts assets and other investments totaled $2.5 trillion. P/C insurer cash and invested assets were $1.7 trillion in 2018.

Because life insurance products are long-term, generally in force for 10 years or longer, payments are predictable. Therefore, life/annuity insurers invest primarily in long-term products. In 2018 life insurers, excluding separate accounts, invested 72 percent of their assets in bonds and 2 percent in corporate stocks. Life insurers invested 13 percent of their assets in mortgage loans on real estate that take seven years or longer to mature.

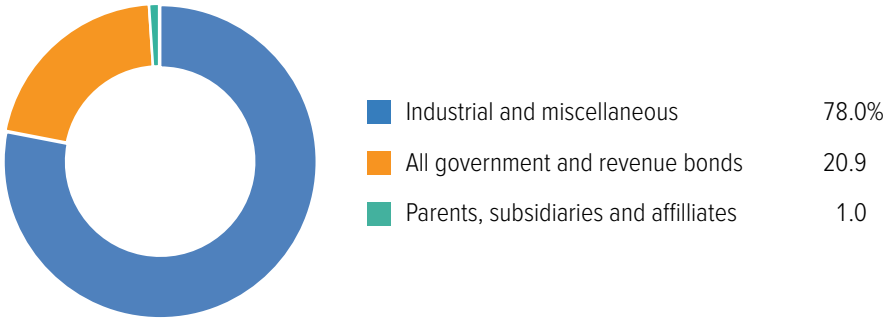
Investments, Life/Annuity Insurers, 2016-2018[1] ($ billions, end of year)

	Amount			Percent of total investments		
Investment type	2016	2017	2018	2016	2017	2018
Bonds	$2,860.6	$2,973.5	$2,989.1	73.50%	72.97%	72.48%
Stocks	**$96.0**	**$104.9**	**$94.1**	**2.47%**	**2.57%**	**2.28%**
Preferred stock	9.6	10.5	12.3	0.25	0.26	0.30
Common stock	86.4	94.5	81.8	2.22	2.32	1.98
Mortgage loans on real estate	**$437.7**	**$477.0**	**$521.5**	**11.25%**	**11.71%**	**12.65%**
First lien real estate mortgage loans	430.1	468.5	512.6	11.05	11.50	12.43
Real estate loans less first liens	7.6	8.6	8.9	0.20	0.21	0.22
Real estate	**$24.5**	**$23.5**	**$20.4**	**0.63%**	**0.58%**	**0.50%**
Occupied properties	6.0	6.0	5.8	0.15	0.15	0.14
Income generating properties	17.6	17.0	14.1	0.45	0.42	0.34
Properties for sale	0.9	0.5	0.5	0.02	0.01	0.01
Cash, cash equivalent and short term investments	101.4	104.7	104.7	2.61	2.57	2.54
Contract loans including premium notes	126.9	128.9	129.2	3.26	3.16	3.13
Derivatives	62.0	58.7	56.4	1.59	1.44	1.37
Other invested assets	158.3	175.1	187.1	4.07	4.30	4.54
Receivables for securities	3.9	5.3	4.5	0.10	0.13	0.11
Securities lending reinvested collateral assets	12.6	16.9	12.6	0.32	0.41	0.30
Write-ins for invested assets	8.0	6.4	4.5	0.20	0.16	0.11
Total cash and invested assets	**$3,891.9**	**$4,074.8**	**$4,124.1**	**100.00%**	**100.00%**	**100.00%**

[1]Data are net admitted assets of life/annuity insurers.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Investments, Life/Annuity Insurers, Bond Portfolio, 2018[1]



[1]Long-term bonds with maturity dates more than one year, as of December 31, 2018. Does not add to 100 percent due to rounding.
Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

PAYOUTS

Life insurance benefits and claims totaled $784 billion in 2018. This amount includes life insurance death benefits, annuity benefits, disability benefits and other payouts and compares with $697 billion in 2017. The largest payout, $350 billion, was for surrender benefits and withdrawals from life insurance contracts made to policyholders who terminated their policies early or withdrew cash from their policies.

Life/Annuity Insurance Benefits And Claims, 2014-2018 ($000)

	2014	2015	2016	2017	2018
Death benefits	$65,960,933	$72,320,822	$73,996,171	$74,942,640	$77,430,727
Matured endowments, excluding annual pure endowments	350,488	397,554	420,287	437,591	381,587
Annuity benefits	69,583,732	73,535,187	74,769,738	77,043,317	78,392,309
Disability, accident and health benefits[1]	113,572,825	115,468,861	120,056,048	126,787,598	132,337,071
Coupons, pure endowment and similar benefits	18,992	18,237	19,509	19,406	11,216
Surrender benefits, withdrawals for life contracts	281,532,892	272,998,652	265,095,216	308,928,847	350,278,917
Group conversions	28,088	48,382	30,872	25,719	26,702
Interest and adjustments on deposit type contracts	7,749,827	8,009,313	9,407,551	8,348,035	9,539,457
Payments on supplementary contracts with life contingencies	2,237,030	2,120,777	2,062,662	2,106,523	2,152,431
Increase in aggregate reserve	100,984,602	72,537,331	123,731,601	98,004,458	133,817,431
Total benefits and claims	**$642,018,058**	**$617,451,481**	**$669,589,655**	**$696,644,134**	**$784,367,507**

[1]Excludes benefits paid by health insurance companies and property/casualty insurance companies.
Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

PREMIUMS BY LINE

Private Health Insurance

Most private health insurance is written by companies that specialize in that line of business. However, life/annuity and property/casualty insurers also write this coverage, referred to as accident and health insurance in their annual statements. Total private health insurance direct written premiums were $919.6 billion in 2018, including: $715.6 billion from the health insurance segment; $197.5 billion from the life/annuity segment; and $6.5 billion from property/casualty annual statements, according to S&P Global Market Intelligence.

In 2018, 27.5 million Americans did not have health insurance, according to a U.S. Census Bureau report, up from 25.6 million in 2017. The percentage of uninsured Americans in 2018 was 8.5 percent, an increase from 7.9 percent in 2017. The rate of uninsured Americans had been falling since 2013 when 13.3 percent of Americans were uninsured, but the gains have diminished and increases in the uninsured rate may continue. According to the *Gallup-Sharecare-Well-Being Index*, which uses data that are not directly comparable to Census Bureau data, the percentage of U.S. adults without health insurance was 13.7 percent in the fourth quarter of 2018, the highest level since the first quarter of 2014. According to Gallup, this percentage is still below the 18 percent record high recorded in 2014, before implementation of the Affordable Care Act of 2014. The lowest percentage, 10.9 percent, occurred in 2016.

In 2018, 91.5 percent of Americans had private or government health insurance coverage, compared with 92.1 percent in 2017.

Healthcare Coverage, 2018 ($000)

	Number	Percent of total
Insured[1]	**296,206**	**91.5%**
Private health insurance	217,780	67.3
Government health insurance	111,330	34.4
Uninsured	**27,462**	**8.5%**
Total[2]	**323,668**	**100.0%**

[1]Includes individuals with some form of insurance, i.e., government, private and a combination of both and is not a total of people who have either private or government health insurance. People can be covered by more than one type of coverage through the year. [2]Differs from Census Bureau estimates of the total population because of different survey methods.

Source: U.S. Department of Commerce, Census Bureau.

Other findings from the Census Bureau:

- The percentage of Americans insured by private coverage fell to 67.3 percent in 2018 from 67.7 percent in 2017.
- The rate insured by government plans fell to 34.4 percent in 2018 from 34.8 percent in 2017.
- In 2018, among adults age 19 to 64, people age 19 to 25 were among those most likely to be uninsured, at 14.3 percent compared with 8.5 percent of all Americans.
- In 2018, 5.5 percent of children under the age of 19 did not have health insurance coverage.
- Between 2017 and 2018, the percentage of people without health insurance coverage decreased in three states, and increased in 8 states.

Top 10 Health Insurance Groups By Direct Premiums Written, 2018[1] ($000)

Rank	Group/company	Direct premiums written	Market share
1	UnitedHealth Group Inc.	$100,589,323	14.1%
2	Anthem Inc.	66,121,463	9.2
3	Humana Inc.	55,903,897	7.8
4	HealthCare Service Corp.	37,655,147	5.3
5	Centene Corp.	35,334,497	4.9
6	CVS Health Corp.[2]	21,645,211	3.0
7	WellCare Health Plans Inc.	19,907,554	2.8
8	Kaiser Permanente	19,279,172	2.7
9	GuideWell Mutual Holding Corp.	17,954,524	2.5
10	Molina Healthcare Inc.	16,216,140	2.3

[1]Based on health insurer annual statement data. Excludes health insurance data from the property/casualty and life/annuity annual statements. Excludes territories. [2]CVS Health Corp. and Aetna Inc. completed a merger in 2019.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Disability Insurance

Disability insurance pays an insured person an income when he or she is unable to work because of an accident or illness.

Individual Disability Insurance, New Issues Sales, 2018[1] ($000)

	Annualized premiums	Percent change, 2017-2018	Number of policies	Percent change, 2017-2018
Guaranteed renewable	$349,192	-6%	435,309	2%
Noncancellable	251,221	1	169,371	4
Total	**$600,413**	**-2%**	**604,680**	**3%**

[1]Short-term and long-term individual disability income insurance. Based on a LIMRA survey of 19 personal disability insurance companies. Excludes commercial disability income.

Source: *U.S. Individual Disability Income Insurance Sales, 2018 4th Quarter, LIMRA, 2019.*

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Annualized premiums for new disability income policies were down 2 percent in 2018, after rising 8 percent in 2017.

Individual Disability Insurance In Force, 2017[1]

	Number of policies	Percent change, 2016-2017	Annualized premiums	Percent change, 2016-2017
Noncancellable	2,364,276	-1%	$4,403,209,890	2%
Guaranteed renewable	1,681,405	[2]	1,218,850,095	3
Total	**4,045,681**	**[2]**	**$5,622,059,985**	**2%**

[1]Short-term and long-term individual disability income insurance. Based on a LIMRA survey of 21 personal disability insurance companies. Excludes commercial disability income. [2]Less than 0.5 percent.

Source: *LIMRA's Quarterly and Annual Individual Disability Income Surveys*, LIMRA, 2017-2018.

Long-Term Care Insurance

Long-term care (LTC) insurance pays for services to help individuals who are unable to perform certain activities of daily living without assistance, or who require supervision due to a cognitive impairment from an illness such as Alzheimer's disease. According to the U.S. Department of Health and Human Services, most people over age 65 will need LTC services at some point during their lives. There were 52.4 million people age 65 and older in 2018, accounting for 16.0 percent of the U.S. population according to the U.S. Census Bureau. By 2030 the Census Bureau projects that there will be about 73.1 million people age 65 and over, and about 85.7 million in 2050.

Individual Long-Term Care Insurance, 2018[1]

	Lives	Percent change, 2017-2018	Premiums ($ millions)	Percent change, 2017-2018
New business	>57,000	-15%	$169	-8%
In-force[2]	~4,700,000	-2	~10,700	1

[1]Based on LIMRA International's Individual LTC Sales survey. [2]Includes estimates for non-participants.
>=Greater than. ~=Approximately.
Source: *Individual Long-Term Care Insurance Sales and In Force Survey, 2018,* LIMRA, 2019.

Premiums By Line By State

Life/Annuity Insurers Direct Premiums Written And Annuity Considerations By State, 2018[1] ($ millions)

State	Life insurance	Annuities	Accident and health insurance[2]	Deposit-type contract funds	Other considerations	Total
Alabama	$2,192	$2,992	$1,835	$257	$512	$7,789
Alaska	447	395	322	23	239	1,426
Arizona	2,471	5,468	4,050	317	1,846	14,152
Arkansas	1,118	1,576	1,041	74	297	4,106
California	17,576	25,873	14,901	2,754	10,248	71,352
Colorado	2,745	5,601	4,184	1,218	1,025	14,773
Connecticut	2,542	5,331	3,073	9,214	2,268	22,430
Delaware	1,346	2,606	773	56,272	553	61,550
D.C.	434	687	1,039	1,434	789	4,382
Florida	9,638	19,451	14,917	1,468	4,679	50,153
Georgia	5,043	5,650	8,577	2,026	3,092	24,389
Hawaii	840	1,496	1,227	76	449	4,088
Idaho	596	1,200	829	72	293	2,990
Illinois	7,059	9,872	6,191	1,344	2,873	27,339
Indiana	3,060	5,628	4,809	2,341	1,054	16,892
Iowa	2,426	3,213	1,529	8,013	3,219	18,399
Kansas	1,361	2,299	3,984	1,289	412	9,346
Kentucky	1,606	2,647	1,779	268	890	7,191

(table continues)

Life/Annuity Insurers Direct Premiums Written And Annuity Considerations By State, 2018[1] ($ millions) (Cont'd)

State	Life insurance	Annuities	Accident and health insurance[2]	Deposit-type contract funds	Other considerations	Total
Louisiana	$2,441	$3,570	$2,170	$266	$595	$9,043
Maine	451	1,252	926	67	223	2,919
Maryland	3,071	5,299	3,763	679	1,351	14,163
Massachusetts	3,805	7,798	3,586	1,771	3,438	20,396
Michigan	4,630	10,796	3,633	1,194	1,868	22,120
Minnesota	4,755	4,951	1,715	917	2,158	14,497
Mississippi	1,272	1,748	1,500	278	206	5,004
Missouri	2,778	6,069	4,853	736	2,079	16,515
Montana	374	492	416	35	177	1,493
Nebraska	1,086	1,841	1,566	487	486	5,466
Nevada	1,174	1,665	1,334	309	512	4,994
New Hampshire	619	2,263	716	145	861	4,604
New Jersey	6,471	12,022	6,906	1,495	2,724	29,618
New Mexico	659	1,053	1,146	80	447	3,385
New York	12,378	19,016	10,158	41,063	9,191	91,806
North Carolina	4,805	7,581	6,365	664	2,774	22,189
North Dakota	436	663	340	80	186	1,704
Ohio	5,125	11,307	7,933	14,931	2,334	41,631
Oklahoma	1,480	2,183	1,833	239	556	6,291
Oregon	1,290	2,672	2,148	246	1,130	7,485
Pennsylvania	6,476	13,889	7,694	2,899	3,160	34,118
Rhode Island	459	1,258	540	135	206	2,597
South Carolina	2,261	3,950	4,092	238	504	11,044
South Dakota	853	570	414	260	122	2,219
Tennessee	3,237	5,545	3,837	935	1,226	14,780
Texas	12,244	17,441	18,006	5,113	3,190	55,994
Utah	1,490	2,498	1,437	361	618	6,404
Vermont	255	590	385	81	155	1,466
Virginia	4,314	6,319	5,939	744	1,394	18,710
Washington	2,606	4,812	4,095	561	1,667	13,741
West Virginia	633	1,210	860	95	161	2,959
Wisconsin	2,673	5,296	3,819	698	1,197	13,683
Wyoming	273	500	376	30	76	1,254
United States[3]	**$159,375**	**$270,102**	**$189,561**	**$166,290**	**$81,710**	**$867,039**

[1]Direct premiums written before reinsurance transactions; excludes state funds. [2]Excludes accident and health premiums reported on property/casualty and health annual statements. [3]Excludes territories, dividends and other nonstate specific data.
Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

LEADING COMPANIES

Top 20 Writers Of Life Insurance By Direct Premiums Written, 2018 ($000)

Rank	Group/company	Direct premiums written[1]	Market share
1	MetLife Inc.	$10,877,337	6.7%
2	Northwestern Mutual Life Insurance Co.	10,550,806	6.5
3	New York Life Insurance Group	9,385,843	5.8
4	Prudential Financial Inc.	9,170,883	5.6
5	Lincoln National Corp.	8,825,314	5.4
6	Massachusetts Mutual Life Insurance Co.	6,874,972	4.2
7	Transamerica	4,867,311	3.0
8	John Hancock Life Insurance Co.	4,657,312	2.9
9	State Farm Mutual Automobile Insurance	4,636,147	2.9
10	Securian Financial Group	4,426,864	2.7
11	Guardian Life Insurance Co. of America	4,055,519	2.5
12	Pacific Life	3,770,584	2.3
13	Nationwide Mutual Group	3,365,469	2.1
14	American International Group (AIG)	3,346,570	2.1
15	AXA	3,097,395	1.9
16	Voya Financial Inc.	2,668,108	1.6
17	Brighthouse Financial Inc.	2,525,047	1.6
18	Protective Life Insurance Company	2,406,629	1.5
19	Primerica Inc.	2,376,601	1.5
20	Torchmark Corp.	2,367,072	1.5

[1]Before reinsurance transactions. Based on U.S. total, includes territories. Excludes annuities, accident/health, deposit-type contract funds and other considerations.
Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Top 10 Writers Of Individual Life Insurance By Direct Premiums Written, 2018 ($000)

Rank	Group/company	Direct premiums written[1]	Market share
1	Northwestern Mutual Life Insurance Co.	$10,547,469	8.2%
2	Lincoln National Corp.	7,467,869	5.8
3	New York Life Insurance Group	7,331,015	5.7
4	Massachusetts Mutual Life Insurance Co.	6,171,213	4.8
5	Prudential Financial Inc.	5,806,118	4.5
6	John Hancock Life Insurance Co.	4,651,894	3.6
7	State Farm Mutual Automobile Insurance	4,593,999	3.6
8	Transamerica	4,567,999	3.6
9	Pacific Life	3,770,584	2.9
10	MetLife Inc.	3,724,165	2.9

[1]Before reinsurance transactions. Based on U.S. total, includes territories. Excludes annuities, accident and health, deposit-type contract funds and other considerations.
Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Top 10 Writers Of Group Life Insurance By Direct Premiums Written, 2018 ($000)

Rank	Group/company	Direct premiums written[1]	Market share
1	MetLife Inc.	$7,133,718	21.0%
2	Prudential Financial Inc.	3,364,765	9.9
3	Securian Financial Group	2,510,157	7.4
4	New York Life Insurance Group	2,054,828	6.1
5	Cigna Corp.	1,703,227	5.0
6	Unum Group	1,617,900	4.8
7	Lincoln National Corp.	1,357,411	4.0
8	Hartford Life & Accident Insurance Co.	1,334,463	3.9
9	Nationwide Mutual Group	1,315,267	3.9
10	CVS Health Corp.[2]	946,226	2.8

[1]Before reinsurance transactions. Based on U.S. total, includes territories. Excludes annuities, accident and health, deposit-type contract funds and other considerations. [2]CVS Health Corp. and Aetna Inc. completed a merger in 2019.
Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

SEPARATE ACCOUNTS

Separate accounts are funds held by life insurance companies that are maintained separately from the insurer's general assets. They were originally established in response to federal securities laws concerning investment-linked variable annuities, according to the National Association of Insurance Commissioners. Variable annuities operate like mutual funds because their earnings vary as they invest in many different vehicles. Separate accounts have evolved rapidly in the past 20 years and now support an array of hybrid investment products.

Separate accounts contribute to the revenue of life/annuity insurers. (See Life/Annuity Insurance Income Statement, 2014-2018.) In 2018, separate accounts contributed $37.3 billion to the total amount of life/annuity insurance revenue of $905 billion.

Chapter 6

Property/Casualty Financial Data

FINANCIAL RESULTS

2018 Financial Results

In 2018 property/casualty (P/C) insurers' net income after taxes grew 66 percent from 2017. However, according to ISO®, a Verisk Analytics® business that significant increase came after a drop of 16 percent in 2017 and reflected changes driven by a new tax law. Net written premiums rose 11 percent in 2018, compared with 2017. The increase in net premiums written was somewhat inflated by changes in reinsurance practices, which for some carriers were a response to provisions in the 2017 Tax Cuts and Jobs Act. Losses incurred and loss adjustment expenses slowed to 4 percent and 1 percent growth, from 2017 to 2018, from 9 percent and 4 percent a year prior, as catastrophe losses fell from $105.7 billion in 2017 to $49.5 billion in 2018. As a result, net underwriting losses fell to $100 million in 2018, from $23 billion in 2017. Investment income rose 13 percent but realized capital gains fell 31 percent in 2018. The statutory rate of return, the percentage of net worth based on average surplus, stood at 8 percent in 2018, up from 5 percent in 2017. According to ISO, industry capacity (policyholders' surplus) as of December 31, 2018, was $742.2 billion, down $8.5 billion, (or 1 percent) compared with year-end 2017, mostly due to the stock market plunge in the fourth quarter of 2018, but is close to the historical high, and the industry remains extremely well capitalized. The combined ratio fell to 99.2 in 2018, according to S&P Global Market Intelligence, from 103.7 in the prior year, to a break-even level. A combined ratio above 100 means that insurers paid out more than they took in as premiums.

Property/Casualty Insurance Industry Income Analysis, 2014-2018[1] ($ billions)

	2014	2015	2016	2017	2018
Net premiums written	$497.0	$514.4	$528.3	$552.6	$612.6
Percent change	4.2%	3.5%	2.7%	4.6%	10.8%
Premiums earned	$487.9	$506.0	$523.5	$540.6	$594.1
Losses incurred	277.7	290.7	317.9	347.6	360.9
Loss adjustment expenses incurred	57.3	59.6	60.3	62.7	63.3
Other underwriting expenses	138.3	144.3	147.6	151.0	167.0
Policyholder dividends	2.4	2.5	2.3	2.6	3.0
Net underwriting gain/loss	12.2	8.9	-4.7	-23.3	-0.1
Net investment income	46.4	47.2	46.6	48.9	55.3
Miscellaneous income/loss	-2.7	1.5	1.1	-5.2	1.4
Operating income	55.9	57.7	43.0	20.3	56.6
Realized capital gain	10.3	9.4	7.3	15.1	10.4
Federal and foreign income tax	10.3	10.2	7.4	-0.6	7.0
Net income after taxes	55.9	56.8	42.9	36.1	60.0

[1]Data in this chart exclude state funds and other residual market insurers and may not agree with similar data shown elsewhere from different sources.

Source: ISO®, a Verisk Analytics® business.

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The P/C insurance industry had an underwriting loss of $100 million in 2018, down significantly from an underwriting loss of $23 billion in 2017, as net premiums written grew 10.8 percent. Incurred losses grew 3.8 percent, down from 9.3 percent in 2017, as catastrophes losses fell $56 billion or 47 percent, 2017 to 2018.

Premiums, Expenses And Combined Ratio

Insurers use various measures to gauge financial performance. The combined ratio after dividends is a measure of underwriting profitability. It reflects the percentage of each premium dollar an insurer spends on claims and expenses. The combined ratio does not take investment income into account. A combined ratio above 100 indicates an underwriting loss.

Net Premiums Written And Combined Ratio, Property/Casualty Insurance, 2009-2018 ($ billions)

Year	Net premiums written[1]	Annual percent change	Combined ratio after dividends[2]	Annual point change[3]
2009	$423.5	-3.8%	100.4	-4.8 pts.
2010	425.9	0.6	102.5	2.1
2011	441.6	3.7	108.3	5.8
2012	460.7	4.3	103.2	-5.2
2013	481.5	4.5	96.4	-6.8
2014	$502.8	4.4%	97.2	0.8 pts.
2015	520.1	3.4	97.9	0.8
2016	533.8	2.6	100.8	2.8
2017	558.2	4.6	103.8	3.0
2018	617.0	10.5	99.2	-4.5

[1]After reinsurance transactions, excludes state funds. [2]After dividends to policyholders. A drop in the combined ratio represents an improvement; an increase represents a deterioration. [3]Calculated from unrounded numbers.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Property/Casualty Insurance Industry Underwriting Expenses, 2018[1]

Expense	Percent of premiums
Losses and related expenses[2]	
Loss and loss adjustment expense (LAE) ratio	**71.3%**
Incurred losses	60.6
Defense and cost containment expenses incurred	4.1
Adjusting and other expenses incurred	6.6
Underwriting expenses[3]	
Expense ratio	**27.1%**
Net commissions and brokerage expenses incurred	11.5
Taxes, licenses and fees	2.4
Other acquisition and field supervision expenses incurred	6.7
General expenses incurred	6.5
Dividends to policyholders[2]	**0.6%**
Combined ratio after dividends[4]	**99.0%**

[1]After reinsurance transactions. [2]As a percent of net premiums earned ($598.6 billion in 2018). [3]As a percent of net premiums written ($617.0 billion in 2018). [4]Sum of loss and LAE, expense and dividends ratios.

Note: Totals may not add up due to rounding.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Profitability: Insurance And Other Selected Industries

Profitability of property/casualty (P/C) insurance companies lags behind other industries. The median return on shareholders' equity for the Fortune 500 Combined Industrial and Service Businesses for the years 2009 to 2018 has exceeded that of the P/C industry in every year. Insurers are required to use statutory accounting principles (SAP), which are more conservative than generally accepted accounting principles (GAAP) when filing annual financial reports with state regulators and the Internal Revenue Service. Insurers outside the United States use standards that differ from SAP and GAAP. Some insurers support a move toward uniform global standards. The P/C industry's statutory accounting rate of return in 2018 was 8.0 percent, up from 5.0 percent in 2017.

Annual Rate Of Return: Net Income After Taxes As A Percent Of Equity, 2009-2018

Year	Property/casualty[1]		Life/annuity		Selected other industries[2]			Fortune 500 combined industrials and service[8]
	Statutory accounting[3]	GAAP accounting[4]	Life/annuity insurance[5]	Healthcare insurance[6]	Diversified financial[7]	Commercial banks	Electric and gas utilities	
2009	5.9%	5.0%	4.0%	14.0%	9.0%	4.0%	9.0%	10.5%
2010	6.6	5.6	7.0	12.0	10.0	8.0	10.0	12.7
2011	3.5	3.0	8.0	15.0	12.0	8.0	10.0	14.5
2012	6.1	5.3	7.0	12.0	18.0	9.0	8.0	15.0
2013	10.2	8.9	7.0	13.0	18.0	9.0	9.0	13.7
2014	8.4	7.5	9.0	12.0	22.0	9.0	10.0	14.2
2015	8.4	7.4	8.0	12.0	22.0	8.0	9.0	13.3
2016	6.2	5.5	7.0	11.0	14.0	8.0	9.0	12.9
2017	5.0	[9]	9.0	15.0	14.0	9.0	10.0	14.1
2018	8.0	NA	6.0	12.0	20.0	12.0	10.0	14.5

[1]Excludes state funds for workers compensation and other residual market carriers. [2]Return on equity on a GAAP accounting basis, Fortune. [3]Statutory net income after taxes, divided by the average of current and prior year-end policyholders' surplus. Calculated by ISO. Statutory accounting is used by insurers when preparing the Annual Statements they submit to regulators. [4]Estimated from statutory data. Equals GAAP net income divided by the average of current and prior-year-end GAAP net worth. Calculated by ISO. [5]Return on equity on a GAAP accounting basis, Fortune. Combined stock and mutual companies, calculated by the Insurance Information Institute. [6]Healthcare insurance and managed care. [7]Companies whose major source of revenue comes from providing diversified financial services. These companies are not specifically chartered as insurance companies, banks or savings institutions, or brokerage or securities companies, but they may earn revenue from these sources. [8]Fortune 500 Combined Industrial and Service Businesses median return on shareholders' equity. [9]Data not available from ISO due to the uncertainties associated with the implementation of the Tax Cuts and Jobs Act of 2017. NA= Data not available.

Source: ISO®, a Verisk Analytics business®; Fortune.

Property/Casualty Insurance Cycle

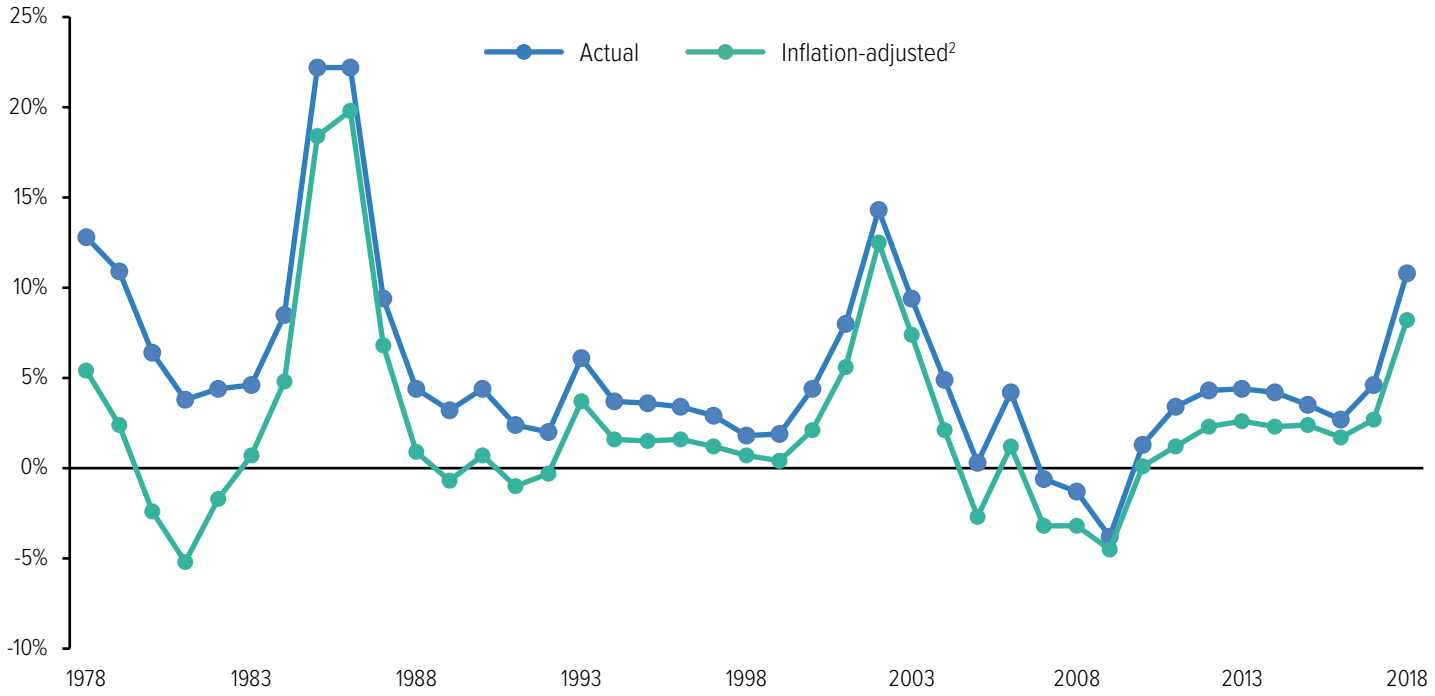
The property/casualty (P/C) insurance industry cycle is characterized by periods of soft market conditions, in which premium rates are stable or falling and insurance is readily available, and by periods of hard market conditions, where rates rise and coverage may be more difficult to find and insurers' profits increase.

A dominant factor in the P/C insurance cycle is intense competition within the industry. Premium rates drop as insurance companies compete vigorously to increase market share. As the market softens to the point that profits diminish or vanish completely, the capital needed to underwrite new business is depleted. In the up phase of the cycle, competition is less intense, underwriting standards become more stringent, the supply of insurance is limited due to the depletion of capital, with premiums rising as a result. The prospect of higher profits draws more capital into the marketplace, leading to more competition and the inevitable down phase of the cycle.

The chart below shows both nominal and inflation-adjusted growth of P/C net premiums written over four decades and three hard markets. Premiums can be accounted for in several ways. This chart uses net premiums written, which reflect premium amounts after deductions for reinsurance transactions.

During the last three hard markets, inflation-adjusted net premiums written grew 7.7 percent annually (1975 to 1978), 10.0 percent (1984 to 1987) and 6.3 percent (2001 to 2004).

Percent Change From Prior Year, Net Premiums Written, P/C Insurance, 1978-2018[1]



[1]Excludes state funds and other residual market insurers. [2]Adjusted for inflation by ISO using the GDP implicit price deflator.
Source: ISO®, a Verisk Analytics® business.

Operating Results

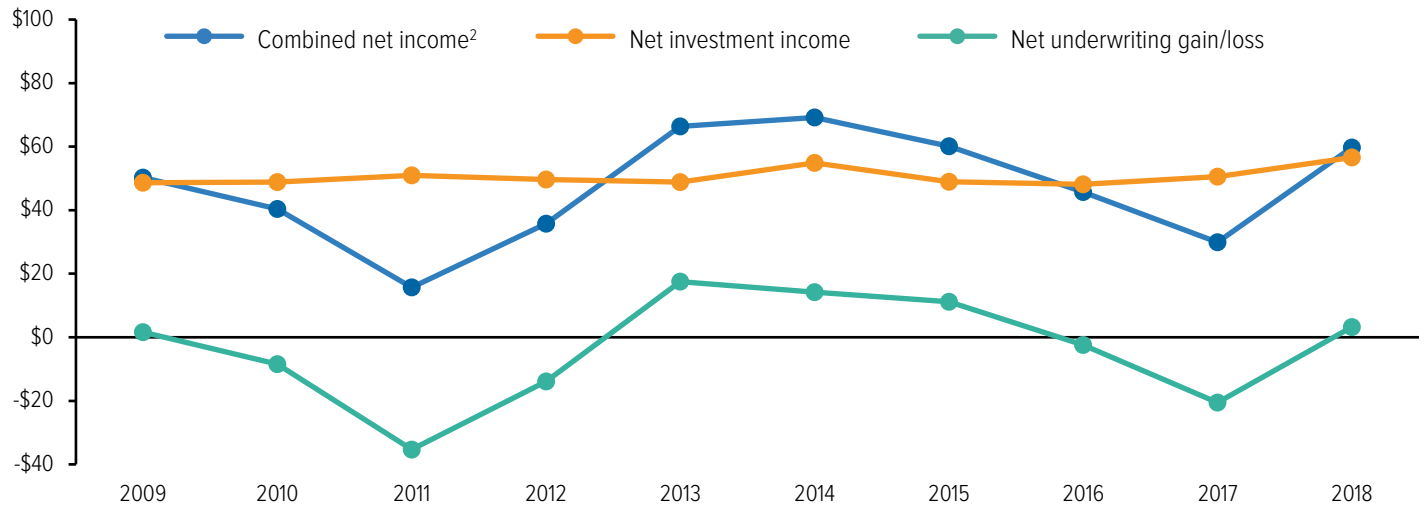
The insurance industry does not generally generate profits from its underwriting operations. Investment income from capital and surplus accounts, money set aside as loss reserves, and unearned premium reserves offsets losses. Underwriting results were favorable in 2006, 2007 and 2009, according to S&P Global Market Intelligence. The industry posted underwriting losses in 2010 through 2012, including 2011's $35.3 billion loss, the largest since 2001's $50.3 billion loss. The industry had three years of underwriting gains ending in 2015, followed by underwriting losses of $2.4 billion in 2016 and $20.6 billion in 2017. In 2018 the industry shifted to an underwriting gain of $3.2 billion.

Operating Results, Property/Casualty Insurance, 2009-2018[1] ($ millions)

Year	Net underwriting gain/loss	Net investment income earned	Net realized capital gains/losses	Policyholder dividends	Taxes[2]	Net income after taxes[3]
2009	$1,579	$48,640	-$7,895	$2,141	$8,481	$32,492
2010	-8,422	48,833	8,003	2,709	8,951	37,716
2011	-35,305	51,000	6,891	2,315	3,026	19,532
2012	-13,872	49,657	8,548	2,656	6,267	37,573
2013	17,500	48,830	17,212	3,018	11,948	70,061
2014	14,247	54,928	11,765	2,943	10,396	64,711
2015	11,163	48,924	9,580	3,017	10,199	58,012
2016	-2,394	48,144	8,058	2,944	7,321	44,557
2017	-20,595	50,520	19,058	3,309	-690	40,878
2018	3,176	56,578	10,689	3,709	7,227	60,825

[1]Excludes state funds. [2]Includes federal and foreign taxes. [3]Does not equal the sum of the columns shown due to the omission of miscellaneous income.
Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Operating Results, Property/Casualty Insurance, 2009-2018[1] ($ billions)



[1]Excludes state funds. [2]Net underwriting gain/loss plus net investment income.
Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Policyholders' Surplus

A property/casualty (P/C) insurer must maintain a certain level of surplus to underwrite risks. This financial cushion is known as *capacity*. When the industry is hit by high losses, such as a major hurricane, capacity is diminished. It can be restored by increases in net income, favorable investment returns, reinsuring more risk and/or raising additional capital.

Consolidated Assets And Policyholders' Surplus, P/C Insurance, 2009-2018 ($ millions)

Year	Net admitted assets	Annual percent change	Statutory liabilities	Annual percent change	Policy-holders' surplus	Annual percent change	Total net premiums written[1]	Annual percent change[1]
2009	$1,456,852	3.6%	$936,261	-0.8%	$520,591	12.7%	$423,545	-3.9%
2010	1,514,190	3.9	947,390	1.2	566,800	8.9	426,380	0.7
2011	1,537,222	1.5	974,699	2.9	562,522	-0.8	441,925	3.6
2012	1,596,263	3.8	998,029	2.4	598,233	6.3	461,130	4.3
2013	1,684,070	5.5	1,016,275	1.8	667,795	11.6	481,757	4.5
2014	1,737,141	3.2	1,046,792	3.0	690,349	3.4	503,090	4.4
2015	1,749,491	0.7	1,057,843	1.1	691,648	0.2	520,613	3.5
2016	1,811,796	3.6	1,096,758	3.7	715,039	3.4	534,003	2.6
2017	1,923,106	6.1	1,155,723	5.4	767,380	7.3	558,450	4.6
2018	1,933,033	0.5	1,176,612	1.8	756,422	-1.4	617,195	10.5

[1]After reinsurance transactions, excludes state funds. May not match total premiums written shown elsewhere in this book because of the use of different exhibits from S&P Global Market Intelligence.

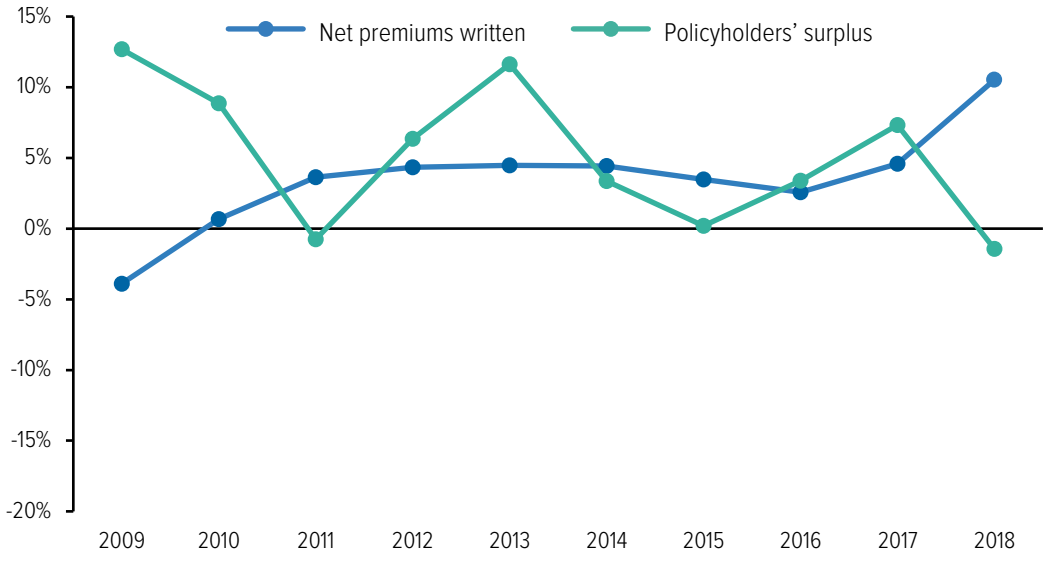
Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance information Institute.

Policyholders' surplus dropped in 2008 and 2009, reflecting the deterioration in global financial markets.

Policyholders' surplus reached a record $767.4 billion in 2017, rising 7.3 percent from 2016.

In 2018 policyholders' surplus declined 1.4 percent to $756.4 billion.

Percent Change From Prior Year, Net Premiums Written And Policyholders' Surplus, P/C Insurance, 2009-2018[1]



[1]After reinsurance transactions, excludes state funds.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

The Combined Ratio

The combined ratio represents the percentage of each premium dollar an insurer spends on claims and expenses.

The combined ratio is the sum of the loss ratio and the expense ratio. The loss ratio expresses the relationship between losses and premiums in percentage terms. The expense ratio expresses the relationship between underwriting expenses and premiums. The following chart shows the components of the combined ratio, a measure of the industry's underwriting performance.

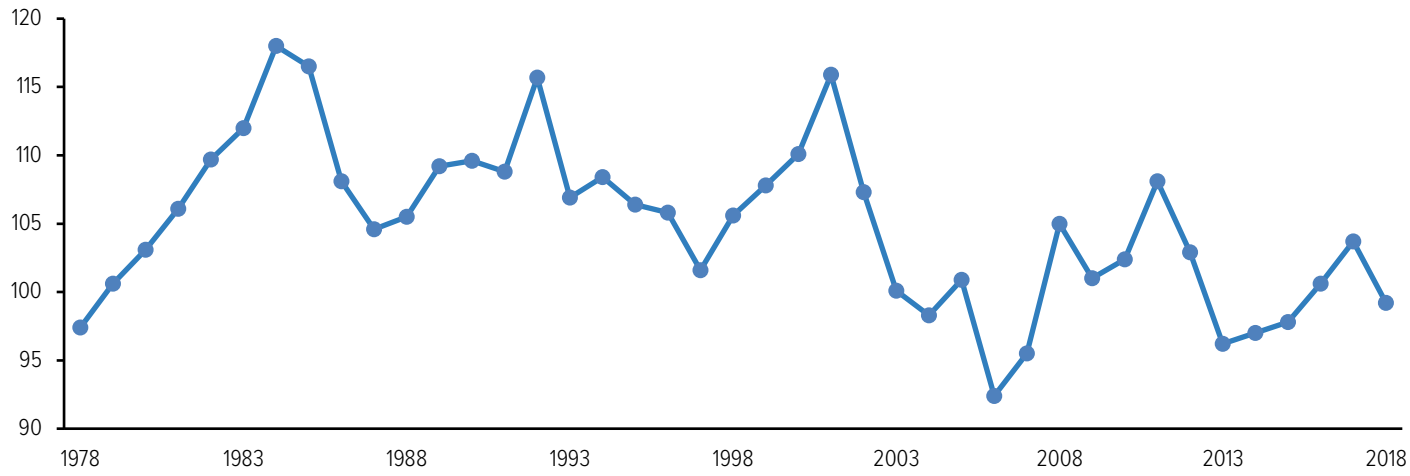
Components Of The Combined Ratio, Property/Casualty Insurance, 2009-2018[1]

Year	Loss ratio[2]	Expense ratio[3]	Combined ratio	Dividends to policyholders[4]	Combined ratio after dividends
2009	72.5	28.0	100.5	0.5	101.0
2010	73.6	28.3	101.8	0.5	102.4
2011	79.3	28.4	107.7	0.4	108.1
2012	74.2	28.2	102.5	0.5	102.9
2013	67.4	28.2	95.6	0.5	96.2
2014	68.7	27.8	96.5	0.5	97.0
2015	69.2	28.0	97.3	0.5	97.8
2016	72.3	27.9	100.2	0.4	100.6
2017	75.9	27.3	103.2	0.5	103.7
2018	71.4	27.3	98.7	0.5	99.2

[1]Excludes state funds and other residual market insurers. [2]Incurred loss and loss adjustment expenses as a percent of earned premiums. [3]Other underwriting expenses as a percent of written premiums. [4]Dividends to policyholders as a percent of earned premiums.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Property/Casualty Insurance Combined Ratio, 1978-2018[1]



[1]Excludes state funds and other residual insurers.

Source: ISO®, a Verisk Analytics® business.

INVESTMENTS

Property/casualty (P/C) and life/annuity insurers are key players in capital markets, with $8.3 trillion in cash and invested assets in 2018, according to S&P Global Market Intelligence. P/C insurer cash and invested assets were $1.7 trillion in 2018. Life/annuity cash and invested assets totaled $4.1 trillion in 2018, and separate accounts assets and other investments totaled $2.5 trillion.

P/C and life insurer investments differ according to their payout needs. P/C insurers invest largely in high-quality liquid securities which can be sold quickly to pay claims resulting from a major hurricane, earthquake or man-made disaster such as a terrorist attack. In 2018 P/C insurers invested 23 percent of their assets in stocks, a highly liquid investment, and 60 percent in bonds, see chart below. Life insurers' benefit payments are more predictable, because life insurance policies and annuity contracts are much longer-term products. Life insurers invest more heavily in longer-term products. In 2018, life insurers invested 72 percent of their assets in bonds (compared with 60 percent for property/casualty insurers) and 2 percent in corporate stocks (compared with 23 percent for P/C insurers). (See chart, Investments, Life/Annuity Insurers, 2017-2018.) Life insurers invested 13 percent of their assets in mortgage loans on real estate, investments that may take seven years or longer to mature, compared with P/C insurers, who invested only 1 percent of their assets in this sector.

Investments, Property/Casualty Insurers, 2016-2018[1] ($ millions, end of year)

	Amount			Percent of total investments		
Investment type	**2016**	**2017**	**2018**	**2016**	**2017**	**2018**
Bonds	$973,277	$979,530	$1,020,600	61.25%	57.91%	60.23%
Stocks	**359,164**	**417,449**	**396,972**	**22.60**	**24.68**	**23.43**
Preferred	10,849	5,448	5,247	0.68	0.32	0.31
Common	348,314	412,001	391,725	21.92	24.36	23.12
Mortgage loans on real estate	**15,032**	**17,324**	**18,876**	**0.95**	**1.02**	**1.11**
First liens	14,407	16,643	18,220	0.91	0.98	1.08
Other than first liens	625	681	656	0.04	0.04	0.04
Real estate	**12,272**	**12,887**	**13,667**	**0.77**	**0.76**	**0.81**
Properties occupied by company	8,933	9,122	9,290	0.56	0.54	0.55
Properties held for income production	3,061	3,543	3,950	0.19	0.21	0.23
Properties held for sale	278	223	427	0.02	0.01	0.03
Cash, cash equivalent and short-term investments	92,340	115,060	101,384	5.81	6.80	5.98
Derivatives	531	233	411	0.03	0.01	0.02
Other invested assets	128,710	137,878	133,876	8.10	8.15	7.90
Receivable for securities	1,679	2,102	1,919	0.11	0.12	0.11
Securities lending reinvested collateral assets	2,582	4,440	4,804	0.16	0.26	0.28
Aggregate write-in for invested assets	3,319	4,673	1,915	0.21	0.28	0.11
Total cash and invested assets	**$1,588,905**	**$1,691,575**	**$1,694,424**	**100.00%**	**100.00%**	**100.00%**

[1]Includes cash and net admitted assets of property/casualty insurers.

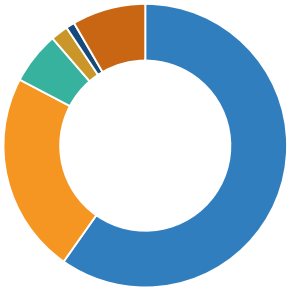
Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Bonds

Property/casualty insurers invest primarily in safe, liquid securities, mainly bonds. These provide stability against underwriting results, which can vary considerably from year to year. The vast majority of bonds are government issued or are high-grade corporates. Bonds in or near default accounted for less than 1 percent (0.12 percent) of all short- and long-term bonds owned by insurers at the end of 2018, according to S&P Global Market Intelligence.

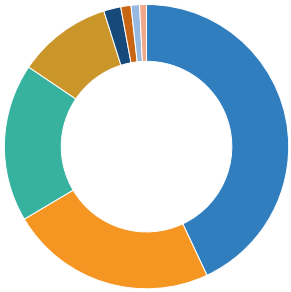
Investments, Property/Casualty Insurers, 2018

Investments by type[1]



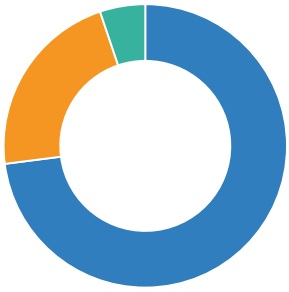
Bonds	60.23%
Common stock	23.12
Cash and short-term investments	5.98
Real estate[2]	1.92
Preferred stock	0.31
Other	8.44

Bond portfolio
(Represents 60.2% of total investments)



Industrial and miscellaneous	44.3%
Special revenue	24.2
Governments	18.5
States, territories and others	11.0
Bank loans	1.1
Parent, subsidiaries and affilates	0.5
Hybrid securities	0.3
Other	0.2

Common stock portfolio
(Represents 23.1% of total investments)



Industrial and miscellaneous	73.0%
Parent, subsidiaries and affililates	21.9
Mutual funds	5.2

[1]Cash and invested net admitted assets, as of December 31, 2018. [2]Includes mortgage loans on real estate.
Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

SURPLUS LINES

The surplus lines market, a group of highly specialized insurers that includes Lloyd's of London, exists to assume risks that licensed companies decline to insure or will only insure at a very high price, with many exclusions or with a very high deductible. To be eligible to seek coverage in the surplus lines market, a diligent effort must have been made to place insurance with an admitted company, usually defined by a certain number of *declinations*, or rejections, by licensed insurers, typically three to five. Many states provide an *export list* of risks that can be insured in the surplus lines market. This obviates the diligent search requirement.

The terms applied to the surplus lines market—nonadmitted, unlicensed and unauthorized—do not mean that surplus lines companies are barred from selling insurance in a state or are unregulated. Each state has surplus lines regulations, and each surplus lines company is overseen for solvency by its home state. More than half of all states maintain a list of eligible surplus lines companies, and some maintain a list of those that are not eligible to do business in that state.

Lloyd's of London is a significant writer of surplus lines insurance, both for corporations and individuals. Lloyd's members conduct their insurance business in syndicates, each of which is run by a managing agent. This type of structure differs from a traditional insurance company. According to A.M. Best, in 2018 the Lloyd's market represented 23.6 percent of the total surplus lines market share and wrote $11.8 billion in surplus lines premiums, as shown in the chart below. Because of its unique structure, A.M. Best does not include Lloyd's in the ranking. The largest surplus lines for Lloyd's are commercial property, general liability, cyber and professional indemnity.

Top 25 U.S. Surplus Lines Groups By Direct Premiums Written, 2018 ($000)

Rank	Group	Direct premiums written	Percent of total U.S. surplus lines market
	Lloyd's Market[1]	$11,755,285	23.6%
1	American International Group	3,548,994	7.1
2	Markel Corporation Group	2,496,504	5.0
3	Berkshire Hathaway Ins. Group	2,198,681	4.4
4	W. R. Berkley Insurance Group	1,808,925	3.6
5	Nationwide Group	1,802,256	3.6
6	Chubb INA Group	1,474,717	3.0
7	AXA U.S. Group	1,443,759	2.9
8	Fairfax Financial (USA) Group	1,410,796	2.8
9	Liberty Mutual Insurance Companies	1,259,268	2.5
10	Alleghany Insurance Holdings Group	889,047	1.8
11	Zurich Financial Services Group NA	857,245	1.7
12	Argo Group	814,328	1.6
13	Tokio Marine U.S. PC Group	786,331	1.6
14	QBE Americas Group	735,075	1.5

(table continues)

Top 25 U.S. Surplus Lines Groups By Direct Premiums Written, 2018 ($000) (Cont'd)

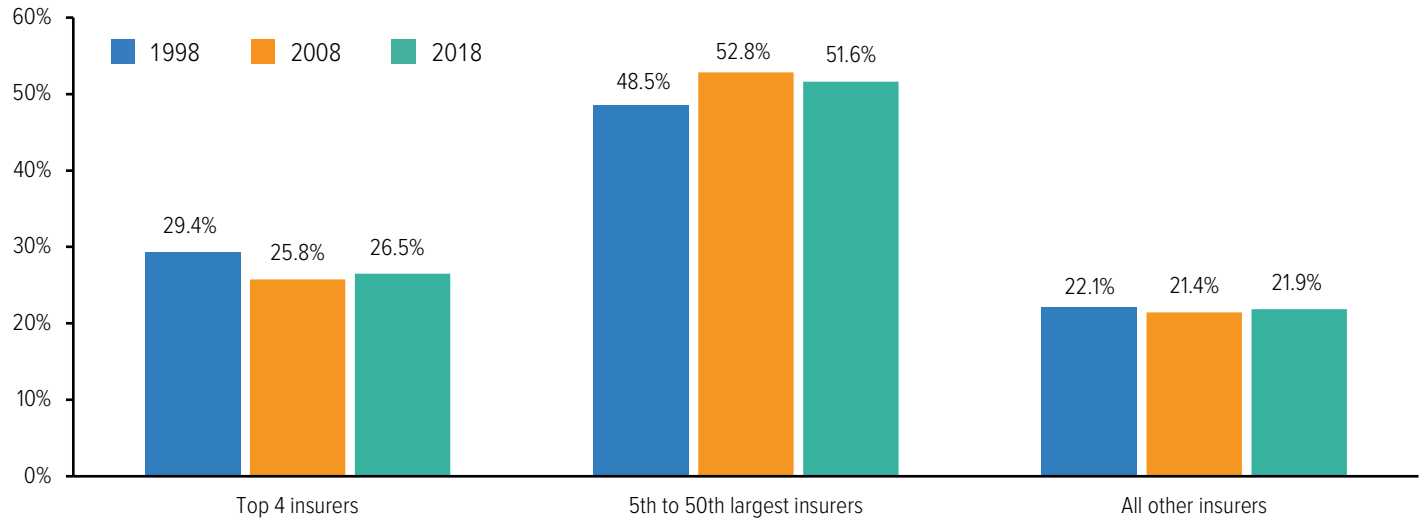
Rank	Group	Direct premiums written	Percent of total U.S. surplus lines market
15	Sompo Holdings U.S. Group	$717,619	1.4%
16	AXIS U.S. Operations	684,316	1.4
17	James River Group	661,454	1.3
18	Starr International Group	634,174	1.3
19	Great American P&C Group	633,022	1.3
20	CNA Insurance Companies	572,259	1.1
21	Swiss Reinsurance Group	563,396	1.1
22	Aspen U.S. Insurance Group	545,449	1.1
23	Arch Insurance Group	453,668	0.9
24	Navigators Insurance Group	434,687	0.9
25	Everest Re U.S. Group	410,803	0.8
	Total, top 25	**$39,181,255**	**79.4%**
	Total U.S. surplus lines market	**$49,890,353**	**100.0%**

[1]Because Lloyd's Market Company structure differs from traditional insurance companies, A.M. Best does not include it in the ranking in this chart.
Source: A.M. Best-used with permission.

CONCENTRATION

According to S&P Global Market Intelligence, concentration in the property/casualty insurance sector as measured by the Herfindahl-Hirschman Index (HHI) decreased from 346.0 in 1998 to 302.3 in 2008. By 2018, the index was virtually unchanged at 302.2. The U.S. Department of Justice classifies any market with an HHI under 1,500 as unconcentrated and any market with an HHI over 2,500 as highly concentrated.

Market Share Trends By Size Of Insurer, 1998-2018[1]



[1]Based on direct premiums written. Excludes state funds and other residual market carriers.
Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

REINSURANCE

Reinsurance is essentially insurance for insurance companies. It is a way for primary insurers to protect against unforeseen or extraordinary losses. Reinsurance also serves to limit liability on specific risks, to increase an insurer's capacity to write business and to help insurers stabilize their business in the face of the wide swings in profit and loss margins, which are inherent in the insurance business.

Net Premiums Written, U.S. Property/Casualty Reinsurers, 2009-2018 ($000)

Year	Net premiums written	Annual percent change	Combined ratio[1]	Annual point change
2009	$25,548,851	-3.4%	92.3	-8.1 pts.
2010	25,722,426	0.7	94.5	2.2
2011	27,897,553	8.5	107.1	12.6
2012	31,649,616	13.4	96.2	-10.9
2013	29,144,853	-7.9	86.8	-9.4
2014	50,012,241[2]	71.6	91.0	4.2
2015	41,466,073	-17.1	92.3	1.3
2016	42,507,830	2.5	95.1	2.8
2017	48,967,222	15.2	108.4	13.3
2018	63,153,563	29.0	103.3	-5.1

[1]After dividends to policyholders. [2]Includes National Indemnity Co.'s loss portfolio and quota share agreements with affiliated GEICO companies.
Source: Reinsurance Association of America.

Top 10 U.S. Property/Casualty Reinsurers Of U.S. Business By Gross Premiums Written, 2018 ($000)

Rank	Company[1]	Country of parent company	Gross premiums written
1	National Indemnity Company (Berkshire Hathaway)[2]	U.S.	$27,120,095
2	Everest Reinsurance Co.	Bermuda	6,566,729
3	Munich Re America, Corp.	Germany	5,504,986
4	XL Reinsurance America Inc.	France	5,467,883
5	Swiss Reinsurance America Corp.	Switzerland	4,327,058
6	Transatlantic Reinsurance Co.	U.S.	3,951,542
7	Odyssey Group	Canada	3,086,228
8	General Reinsurance Corp.	U.S.	2,644,515
9	Partner Re Co. of the U.S.	Bermuda	1,979,309
10	SCOR US Corporation	France	1,821,872

[1]See Reinsurance Underwriting Review 2018 notes posted at www.reinsurance.org for a list of affiliated companies included. [2]Underwriting results exclude assumptions from affiliated General Re Group.
Source: Reinsurance Association of America.

PREMIUMS BY STATE

Direct Premiums Written by State

Direct premiums written represent premium amounts before reinsurance transactions. This contrasts with charts based on net premiums written, i.e., premium amounts after reinsurance transactions.

Direct Premiums Written, P/C Insurance By State, 2018[1] ($000)

State	Total, all lines	State	Total, all lines
Alabama	$8,925,293	Montana	$2,556,685
Alaska	1,606,192	Nebraska	5,011,116
Arizona	11,672,535	Nevada	5,722,920
Arkansas	5,460,429	New Hampshire	2,493,214
California	80,948,048	New Jersey	21,986,266
Colorado	13,330,484	New Mexico	3,524,882
Connecticut	8,814,625	New York	48,303,680
Delaware	2,788,295	North Carolina	16,449,705
D.C.	1,976,400	North Dakota	2,565,272
Florida	53,805,330	Ohio	17,102,142
Georgia	21,523,269	Oklahoma	8,336,375
Hawaii	2,590,554	Oregon	7,385,012
Idaho	2,984,349	Pennsylvania	25,284,026
Illinois	25,990,547	Rhode Island	2,490,665
Indiana	11,622,786	South Carolina	10,163,622
Iowa	6,572,681	South Dakota	2,434,835
Kansas	6,685,306	Tennessee	11,895,823
Kentucky	7,833,758	Texas	58,671,521
Louisiana	11,995,270	Utah	5,050,843
Maine	2,361,248	Vermont	1,287,338
Maryland	12,254,030	Virginia	14,309,735
Massachusetts	15,524,235	Washington	12,820,723
Michigan	19,940,205	West Virginia	3,095,270
Minnesota	11,897,630	Wisconsin	10,848,048
Mississippi	5,390,424	Wyoming	1,214,919
Missouri	12,020,354	**United States[2]**	**$667,518,914**

[1]Before reinsurance transactions, includes state funds, excludes territories. [2]Data for the total United States may differ from similar data shown elsewhere due to the use of different exhibits from S&P Global Market Intelligence.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

In 2018 California accounted for the largest amount of direct premiums written, followed by Texas, Florida, New York and Illinois, according to S&P Global Market Intelligence.

Nationally, direct premiums written rose 5.3 percent in 2018.

INCURRED LOSSES BY STATE

Property/casualty (P/C) insurers pay out billions of dollars each year to settle claims. Many of the payments go to businesses, such as auto repair companies, that help claimants get their lives back together after an accident, fire, windstorm or other incident that caused the injury or property damage. Insurance claim payments support local businesses, enabling them to provide jobs and pay taxes that support the local economy. When P/C insurance claims are paid, funds flow to the industries that supply claimants with the goods and services necessary for their recovery. The chart below shows incurred losses, i.e., losses occurring during a fixed period, whether or not adjusted or paid during the same period.

Incurred Losses By State, Property/Casualty Insurance, 2018[1] ($000)

State	Incurred losses	State	Incurred losses	State	Incurred losses
Alabama	$5,403,593	Louisiana	$6,360,741	Oklahoma	$4,043,739
Alaska	913,240	Maine	1,114,748	Oregon	3,518,503
Arizona	6,869,366	Maryland	7,766,651	Pennsylvania	14,543,588
Arkansas	3,240,912	Massachusetts	7,971,753	Rhode Island	1,433,537
California	56,835,067	Michigan	13,001,444	South Carolina	5,587,254
Colorado	11,163,576	Minnesota	6,374,792	South Dakota	1,356,756
Connecticut	5,076,488	Mississippi	2,805,252	Tennessee	5,857,635
Delaware	1,421,548	Missouri	6,579,523	Texas	31,165,197
D.C.	932,665	Montana	1,389,000	Utah	2,703,200
Florida	38,581,454	Nebraska	2,660,217	Vermont	631,895
Georgia	13,938,391	Nevada	4,058,416	Virginia	8,389,610
Hawaii	1,167,833	New Hampshire	1,255,000	Washington	6,986,590
Idaho	1,817,885	New Jersey	12,843,320	West Virginia	1,755,893
Illinois	14,531,584	New Mexico	2,258,969	Wisconsin	6,083,560
Indiana	5,837,873	New York	27,755,699	Wyoming	851,329
Iowa	4,465,075	North Carolina	12,491,658		
Kansas	3,503,390	North Dakota	1,213,388		
Kentucky	4,417,634	Ohio	8,346,182	**United States**	**$401,272,611**

[1]Losses occurring within a fixed period whether or not adjusted or paid during the same period, on a direct basis before reinsurance.
Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

GUARANTY FUNDS

All 50 states, Washington, D.C., Puerto Rico and the Virgin Islands have procedures under which solvent property/casualty (P/C) insurance companies cover claims against insolvent insurers. Some states—including New Jersey, New York and Pennsylvania—have separate pre-assessment funds for workers compensation. New York's pre-assessment system makes annual estimates of how much will be needed in the coming year to fulfill the system's obligations to pay the claims of insolvent insurers. Florida has a post-assessment fund, which covers the claims of insolvent workers compensation insurers and self-insurers.

The P/C lines of insurance covered by guaranty funds and the maximum amount paid on any claim vary from state to state. Assessments are used to pay claims against companies that became insolvent in the past as well as for current insolvencies. A similar system for life and health insurers is coordinated by the National Organization of Life and Health Insurance Guaranty Associations.

Property/Casualty Guaranty Fund Net Assessments, 2009-2018

Year	Net assessments[1]
2009	$554,061,688
2010	219,349,059
2011	138,898,346
2012	450,429,770
2013	456,953,717
2014	483,844,426
2015	$458,510,638
2016	392,031,219
2017	469,164,131
2018	225,560,454
Total, inception-2018[2]	**$17,793,857,623**

[1]Assessments less refunds. [2]Includes pre-1978 net assessments.
Source: National Conference of Insurance Guaranty Funds.

Guaranty fund net assessments plummeted to $226 million in 2018, down 52 percent from $469 million in 2017.

Net assessments in 2018 were the lowest since 2011 when they stood at $139 million.

Property/Casualty Guaranty Fund Net Assessments By State, 2018

State	Net assessments[1]	State	Net assessments[1]
Alabama	$13,494,453	Montana	0
Alaska	3,810,653	Nebraska	0
Arizona	0	Nevada	$5,000,000
Arkansas	0	New Hampshire	0
California	0	New Jersey	122,639,890
Colorado	0	New Mexico	0
Connecticut	4,734,081	New York	NA
Delaware	332,400	North Carolina	0
D.C.	0	North Dakota	0
Florida	0	Ohio	0
Georgia	0	Oklahoma	0
Hawaii	0	Oregon	0
Idaho	0	Pennsylvania	62,600,000
Illinois	0	Rhode Island	-1,717,942
Indiana	5,350,000	South Carolina	0
Iowa	0	South Dakota	0
Kansas	0	Tennessee	0
Kentucky	3,500,000	Texas	0
Louisiana	0	Utah	0
Maine	1,800,000	Vermont	450,000
Maryland	0	Virginia	700,000
Massachusetts	0	Washington	366,919
Michigan	0	West Virginia	2,500,000
Minnesota	0	Wisconsin	0
Mississippi	0	Wyoming	0
Missouri	0	**United States**	**$225,560,454**

[1]Assessments less refunds. Negative numbers represent net refunds.
NA=Data not available.

Source: National Conference of Insurance Guaranty Funds.

Chapter 7

Property/Casualty Insurance By Line

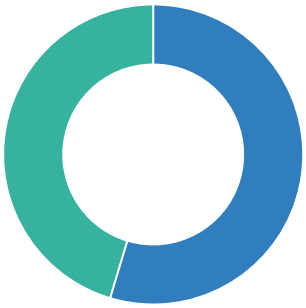
PREMIUMS BY LINE

Premiums can be accounted for in two major ways: net premiums written, which reflect premium amounts after deductions for reinsurance and direct premiums written, which are calculated before reinsurance transactions.

Personal vs. Commercial

The property/casualty (P/C) insurance industry is divided into two main segments: personal lines and commercial lines. Personal lines include coverage for individuals, mainly auto and homeowners. Commercial lines include the many kinds of insurance products designed for businesses. In 2018 private passenger auto insurance was the largest line of insurance, based on net premiums written, making up 39 percent of all P/C insurance (commercial and personal combined) and 73 percent of personal insurance. Homeowners multiple peril insurance is the second largest line, accounting for 14 percent of total P/C insurance and 27 percent of personal lines. Other liability (coverages that protect against legal liability resulting from negligence, carelessness or failure to act) is the largest commercial line and third-largest P/C line. It represented 10 percent of all P/C net premiums and 20 percent of all commercial premiums.

Net Premiums Written, Personal And Commercial Lines, 2018 ($ billions)



Personal lines	53.5%	$329.8
Commerical lines	46.5	287.1
Total	**100.0%**	**$617.0**

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Net Premiums Written By Line, Property/Casualty Insurance, 2016-2018[1] ($ millions)

Lines of insurance	2016	2017	2018	Percent change from prior year 2016	2017	2018	Percent of total, 2018
Private passenger auto	$207,371.5	$222,234.9	$240,908.2	7.6%	7.2%	8.4%	39.0%
Liability	124,439.7	133,745.2	144,438.3	7.0	7.5	8.0	23.4
Collision and comprehensive	82,931.8	88,489.7	96,469.9	8.4	6.7	9.0	15.6
Homeowners multiple peril	81,191.5	82,811.3	88,920.8	1.6	2.0	7.4	14.4
Other liability[2]	44,591.9	46,676.5	58,405.8	-2.2	4.7	25.1	9.5
Workers compensation	45,619.8	45,047.4	48,343.3	0.6	-1.3	7.3	7.8
Commercial multiple peril	34,099.7	34,190.7	37,541.4	-1.8	0.3	9.8	6.1
Commercial auto	28,264.4	30,638.4	35,730.9	2.3	8.4	16.6	5.8
Liability	21,315.2	22,881.2	26,952.1	1.9	7.3	17.8	4.4
Collision and comprehensive	6,949.2	7,757.3	8,778.8	3.3	11.6	13.2	1.4
Inland marine	11,407.5	11,973.6	14,588.3	-0.1	5.0	21.8	2.4
Reinsurance[3]	11,600.0	12,259.1	13,966.3	-6.5	5.7	13.9	2.3
Fire	11,005.9	10,688.2	11,622.4	-3.6	-2.9	8.7	1.9
Allied lines	9,758.6	8,711.2	10,169.8	7.0	-10.7	16.7	1.6
Medical profesional liability	8,194.9	8,062.0	8,344.6	-0.1	-1.6	3.5	1.4
Accident and health[4]	8,325.0	9,992.5	8,205.8	6.5	20.0	-17.9	1.3
Surety	5,138.5	5,368.8	6,353.4	[5]	4.5	18.9	1.0
Multiple peril crop	3,321.3	4,742.0	5,380.1	-9.8	42.8	13.5	0.9
Mortgage guaranty	4,410.8	4,376.8	4,693.8	-5.8	-0.8	7.2	0.8
Farmowners multiple peril	3,802.2	3,925.3	4,128.9	1.1	3.2	5.2	0.7
Ocean marine	2,549.4	2,370.5	2,885.7	-10.0	-7.0	21.7	0.5
Product liability	2,422.7	2,689.1	2,790.1	-13.4	11.0	3.8	0.5
Boiler and machinery	1,892.2	2,043.2	2,600.8	12.5	8.0	27.3	0.4
Earthquake	1,535.1	1,511.5	1,827.5	-6.9	-1.5	20.9	0.3
Credit	1,118.6	1,221.0	1,511.0	4.5	9.2	23.8	0.2
Other lines[6]	914.8	1,080.4	1,256.3	-14.1	18.1	16.4	0.2
Warranty	930.2	1,090.6	1,247.7	-8.6	17.2	14.4	0.2
Aircraft	871.9	861.0	1,219.3	-6.1	-1.2	41.6	0.2
Fidelity	1,093.9	986.4	1,215.5	-5.8	-9.8	23.2	0.2
Excess workers compensation	889.2	796.6	722.4	-4.3	-10.4	-9.3	0.1
Private crop	455.4	498.8	693.3	-22.1	9.5	39.0	0.1
Private flood	277.8	471.0	540.9	NA	69.5	14.8	0.1
International	82.6	265.2	487.0	0.8	220.9	83.7	0.1
Financial guaranty	364.5	420.8	364.3	-13.0	15.4	-13.4	0.1
Burglary and theft	255.5	222.9	280.1	10.7	-12.7	25.6	[5]
Federal flood[7]	4.3	12.8	12.9	43.3	197.8	0.3	[5]
Total, all lines[8]	**$533,762.0**	**$558,240.6**	**$616,958.6**	**2.6%**	**4.6%**	**10.5%**	**100.0%**

[1]After reinsurance transactions, excludes state funds. [2]Coverages protecting against legal liability resulting from negligence, carelessness or failure to act. [3]Only includes nonproportional reinsurance, an arrangement in which a reinsurer makes payments to an insurer whose losses exceed a predetermined amount. [4]Premiums from certain insurers that write health insurance but file financial statements with state regulators on a property/casualty basis. [5]Less than 0.1 percent. [6]Includes miscellaneous coverages. [7]Provided by FEMA through participating private insurers. [8]May not match total premiums shown elsewhere in this book because of the use of different exhibits from S&P Global Market Intelligence. NA=Data not available.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Direct Premiums Written, Property/Casualty Insurance, By State By Line, 2018[1] ($000)

State	Private passenger auto		Commercial auto		Homeowners multiple peril	Farmowners multiple peril	Commercial multiple peril
	Liability	Coll./Comp.	Liability	Coll./Comp.			
Alabama	$1,988,252	$1,573,265	$413,458	$155,998	$1,741,767	$79,052	$596,494
Alaska	283,297	202,754	54,936	15,723	171,663	641	103,150
Arizona	3,215,015	2,069,258	497,631	132,906	1,687,244	16,767	633,561
Arkansas	1,115,611	956,719	280,496	122,765	941,727	35,895	337,899
California	17,237,262	12,651,489	3,455,044	940,745	8,365,295	214,106	4,852,169
Colorado	3,015,687	2,020,160	503,607	180,119	2,486,828	88,862	846,384
Connecticut	1,964,892	1,118,120	352,859	92,547	1,526,118	7,089	653,736
Delaware	632,187	281,215	110,068	25,508	283,058	7,577	369,249
D.C.	209,587	161,815	45,127	7,141	166,369	0	166,522
Florida	14,530,297	5,921,229	2,805,041	453,599	9,631,263	24,607	1,917,672
Georgia	6,122,284	3,276,798	1,102,837	305,699	3,346,783	127,062	1,074,036
Hawaii	447,617	333,734	97,611	26,418	399,064	0	183,975
Idaho	593,914	451,351	130,303	68,983	386,963	67,371	218,843
Illinois	4,284,985	3,365,575	1,354,944	394,438	3,719,689	185,254	1,766,273
Indiana	2,246,823	1,688,501	541,114	230,615	1,990,281	197,375	860,941
Iowa	898,797	937,006	247,398	177,599	811,406	221,208	403,913
Kansas	1,010,230	940,087	214,213	141,135	1,205,261	247,170	388,410
Kentucky	2,064,892	1,122,885	347,841	120,959	1,217,016	164,905	532,980
Louisiana	3,128,453	1,694,242	630,686	116,831	1,900,173	14,913	493,020
Maine	403,188	361,426	107,649	50,234	432,543	5,669	246,834
Maryland	3,184,041	2,095,003	509,700	150,192	1,841,929	29,978	670,354
Massachusetts	3,015,665	2,386,015	700,964	244,507	2,460,803	3,845	1,253,542
Michigan	6,045,386	3,468,716	737,024	347,158	2,852,002	147,014	1,105,084
Minnesota	2,130,705	1,665,036	399,226	218,108	2,188,417	155,277	732,913
Mississippi	1,077,978	895,330	303,725	104,148	990,765	27,829	324,200
Missouri	2,302,778	1,826,656	477,446	214,356	2,130,092	186,443	801,329
Montana	389,636	385,391	109,777	72,841	352,551	78,235	187,684
Nebraska	700,163	612,974	166,045	131,394	772,065	244,344	285,339
Nevada	1,923,138	796,629	291,177	50,577	620,692	8,491	337,846
New Hampshire	446,618	434,284	107,554	40,189	420,199	3,180	252,018
New Jersey	5,460,852	2,492,681	1,345,272	241,477	2,714,311	3,018	1,540,216
New Mexico	922,099	565,495	169,440	56,688	547,015	26,343	234,740
New York	8,969,142	5,013,436	2,304,594	387,670	5,426,122	44,909	4,093,072
North Carolina	3,311,348	3,052,880	736,948	250,806	2,710,120	65,073	982,594
North Dakota	215,281	277,610	95,280	75,701	218,605	128,055	130,938
Ohio	3,873,433	3,064,091	800,875	314,662	2,970,685	177,566	1,293,882
Oklahoma	1,499,287	1,269,163	368,471	158,692	1,705,106	160,419	549,783
Oregon	2,091,386	984,384	332,555	107,601	868,227	69,761	515,993
Pennsylvania	5,074,201	4,053,504	1,189,200	476,047	3,424,268	109,663	1,820,201
Rhode Island	638,045	327,612	93,083	25,930	419,521	389	167,335
South Carolina	2,766,722	1,592,107	387,549	122,686	1,772,140	16,031	505,667
South Dakota	254,621	314,798	76,139	60,474	261,228	126,508	137,034
Tennessee	2,381,566	1,947,504	488,959	242,517	2,101,110	154,752	758,796
Texas	12,724,547	9,952,450	3,167,892	968,360	9,447,668	351,009	2,789,672
Utah	1,327,316	791,620	250,005	90,372	568,442	16,024	291,011
Vermont	186,370	201,471	47,451	27,660	206,220	15,491	140,072
Virginia	3,289,184	2,462,983	578,987	193,884	2,332,033	76,424	821,024
Washington	3,617,032	1,890,796	557,856	179,955	1,830,721	77,183	875,180
West Virginia	700,919	572,853	144,799	55,368	457,072	16,352	206,520
Wisconsin	1,797,461	1,452,107	431,537	208,132	1,484,980	188,966	731,802
Wyoming	184,132	229,092	59,465	35,579	210,760	31,782	101,264
United States	**$147,894,319**	**$98,202,297**	**$30,721,859**	**$9,613,691**	**$98,716,381**	**$4,445,880**	**$41,283,164**

[1]Includes some state funds.

(table continues)

Direct Premiums Written, Property/Casualty Insurance, By State By Line, 2018[1] ($000) (Cont'd)

State	Workers compensation	Excess workers compensation	Medical professional liability	Product liability	Other liability	Fire	Allied lines
Alabama	$332,458	$16,548	$117,722	$30,391	$645,517	$194,029	$196,820
Alaska	239,826	2,748	23,021	4,846	141,796	52,022	32,026
Arizona	855,382	8,492	201,636	45,518	929,366	136,698	127,866
Arkansas	247,500	3,699	64,145	16,789	402,086	150,259	122,119
California	12,216,581	118,489	728,433	526,955	8,809,881	1,225,854	799,183
Colorado	1,091,059	9,879	149,174	78,837	1,237,557	163,707	194,015
Connecticut	766,829	6,100	183,967	48,242	1,031,808	132,539	123,767
Delaware	222,157	451	29,881	9,338	384,216	25,801	28,627
D.C.	189,380	1,414	27,715	6,692	384,933	34,952	28,415
Florida	3,168,666	45,016	603,909	218,925	5,659,784	1,265,663	2,444,425
Georgia	1,647,260	19,952	307,205	92,789	1,682,258	339,117	290,252
Hawaii	275,023	5,451	28,869	11,189	303,030	82,842	100,153
Idaho	431,782	-10,488	30,729	13,280	213,212	34,851	26,325
Illinois	2,460,770	21,659	456,078	160,004	3,904,932	380,746	309,184
Indiana	799,227	9,924	124,575	84,260	946,997	253,972	165,621
Iowa	680,205	5,731	62,974	39,414	597,491	112,943	121,004
Kansas	393,974	4,816	64,092	33,315	435,709	105,105	157,674
Kentucky	579,041	6,773	115,750	25,326	502,860	119,785	101,423
Louisiana	819,755	44,813	93,078	41,724	926,640	353,386	417,606
Maine	229,586	1,391	40,170	7,636	174,527	46,036	39,302
Maryland	939,813	3,912	286,321	45,354	1,111,026	156,224	131,188
Massachusetts	1,272,890	12,717	319,635	96,662	1,910,278	286,707	238,195
Michigan	1,074,486	10,695	188,019	88,176	1,264,817	320,900	170,871
Minnesota	952,550	1,091	78,579	91,115	1,146,175	199,137	296,890
Mississippi	350,308	5,118	47,642	16,903	329,321	123,788	130,263
Missouri	911,298	18,778	140,174	57,385	1,083,575	197,524	186,110
Montana	274,640	2,937	44,541	10,499	177,197	30,938	34,341
Nebraska	370,228	3,466	33,633	19,817	352,861	64,341	85,668
Nevada	406,478	9,684	64,861	-11,600	536,912	85,507	69,988
New Hampshire	234,968	456	45,049	11,913	207,814	36,065	30,006
New Jersey	2,448,095	12,925	396,637	177,895	2,583,491	338,601	299,243
New Mexico	279,475	3,023	57,811	10,022	240,791	39,935	41,719
New York	5,907,811	27,153	1,611,050	308,196	8,250,875	776,735	598,021
North Carolina	1,419,031	8,880	167,625	87,185	1,280,312	285,418	317,320
North Dakota	5,933	2	9,907	13,076	171,643	38,481	41,910
Ohio	20,349	61,888	220,631	108,282	1,663,364	367,460	240,598
Oklahoma	661,314	5,819	96,422	38,813	628,293	159,473	195,977
Oregon	696,439	7,600	84,205	47,367	582,509	97,814	69,705
Pennsylvania	2,773,627	20,092	654,665	146,688	2,702,770	423,077	288,861
Rhode Island	216,820	1,211	27,831	11,280	232,831	40,717	44,483
South Carolina	829,130	7,434	68,952	48,906	587,865	233,726	186,762
South Dakota	178,069	193	15,806	11,195	132,731	31,826	33,646
Tennessee	818,244	10,404	196,205	54,621	1,058,860	257,765	199,245
Texas	2,509,033	17,387	340,622	311,665	5,420,486	1,755,094	1,819,980
Utah	443,499	2,764	56,898	34,783	456,861	90,292	48,132
Vermont	190,719	296	15,068	6,464	102,146	20,206	14,802
Virginia	1,070,994	13,140	184,111	54,586	1,402,318	221,275	193,935
Washington	22,394	14,795	156,752	74,674	1,234,498	196,633	154,454
West Virginia	271,119	4,517	69,779	10,258	256,540	62,126	38,415
Wisconsin	1,930,928	6,615	75,644	81,185	1,001,757	175,282	153,215
Wyoming	2,929	225	21,838	5,819	102,612	21,026	21,770
United States	**$57,130,073**	**$618,075**	**$9,230,039**	**$3,564,655**	**$67,528,129**	**$12,344,402**	**$12,201,519**

[1]Includes some state funds.

(table continues)

Direct Premiums Written, Property/Casualty Insurance, By State By Line, 2018[1] ($000) (Cont'd)

State	Inland marine	Ocean marine	Surety	Fidelity	Burglary and theft	Boiler and machinery	Financial guaranty
Alabama	$336,672	$40,435	$70,824	$13,858	$3,948	$25,263	$1,345
Alaska	94,699	36,109	31,691	2,428	800	10,533	197
Arizona	386,076	21,254	111,585	13,147	4,340	25,366	621
Arkansas	237,585	16,655	36,315	8,326	2,511	15,903	1,141
California	3,102,769	316,797	903,010	129,893	41,684	134,744	23,440
Colorado	449,234	15,559	147,427	23,720	6,879	24,193	4,899
Connecticut	357,169	56,263	61,772	24,264	5,418	18,948	3,270
Delaware	72,446	8,198	25,009	4,335	1,339	4,245	17,226
D.C.	135,511	4,225	147,560	13,628	3,778	5,950	105
Florida	1,518,010	352,226	411,569	62,059	22,136	72,459	4,175
Georgia	713,134	64,503	166,045	32,324	10,040	43,123	1,536
Hawaii	109,624	18,459	43,675	4,302	965	5,829	3,967
Idaho	106,050	7,217	23,688	3,112	896	8,266	0
Illinois	897,059	114,844	212,877	66,334	16,092	72,464	21,662
Indiana	392,436	24,282	88,872	18,885	5,492	57,102	1,749
Iowa	244,331	7,789	48,302	13,273	3,148	24,289	3,503
Kansas	209,131	8,011	46,589	10,394	2,689	19,618	809
Kentucky	283,429	24,483	78,963	10,216	2,665	27,345	806
Louisiana	439,339	139,786	125,195	12,817	5,211	32,851	4,524
Maine	82,733	29,060	17,941	4,270	960	7,993	223
Maryland	395,068	102,079	156,757	25,147	6,161	26,114	3,149
Massachusetts	549,781	95,854	145,001	43,784	8,189	39,688	1,620
Michigan	578,307	76,069	106,584	31,860	9,425	61,155	14,861
Minnesota	394,386	28,464	89,721	27,852	7,750	37,262	2,271
Mississippi	213,434	17,614	42,844	7,969	2,166	13,986	1,330
Missouri	411,479	34,737	78,396	23,858	6,170	29,098	5,630
Montana	86,771	2,880	31,475	3,039	861	6,013	0
Nebraska	172,432	4,688	39,301	7,124	1,937	14,115	532
Nevada	196,196	7,252	91,756	6,936	2,397	12,820	1,204
New Hampshire	94,136	13,007	17,463	4,300	1,005	6,729	112
New Jersey	751,035	155,480	170,269	43,969	10,986	46,046	5,001
New Mexico	111,780	2,395	48,508	4,107	901	6,869	435
New York	1,799,806	375,306	458,837	164,689	37,094	118,850	135,022
North Carolina	684,821	65,246	170,161	37,287	7,913	41,583	6,775
North Dakota	81,075	1,564	20,390	2,913	606	13,871	138
Ohio	667,864	54,103	145,998	40,391	14,849	65,002	24,517
Oklahoma	274,449	19,336	67,435	11,514	2,888	19,780	19,705
Oregon	301,942	30,519	77,551	10,370	3,129	18,116	132
Pennsylvania	833,348	69,067	236,385	52,208	14,598	72,600	11,724
Rhode Island	87,277	37,226	25,811	4,260	1,052	5,024	201
South Carolina	393,913	34,991	83,083	9,996	3,165	25,567	777
South Dakota	69,443	1,571	14,732	3,517	612	6,787	0
Tennessee	469,442	56,897	108,839	18,409	6,429	33,208	242
Texas	2,327,680	280,490	644,862	80,277	30,524	126,749	15,902
Utah	184,170	11,655	58,208	7,795	2,071	11,103	349
Vermont	46,866	3,728	7,576	2,313	555	5,521	2
Virginia	509,917	77,819	184,685	34,969	9,715	32,283	502
Washington	700,619	124,382	181,069	19,349	6,046	34,577	2,778
West Virginia	86,833	3,276	46,993	3,712	898	7,035	163
Wisconsin	333,105	38,009	62,733	22,169	6,339	41,708	408
Wyoming	50,806	1,074	55,247	1,630	403	7,915	0
United States	**$24,025,621**	**$3,132,934**	**$6,467,579**	**$1,229,298**	**$347,825**	**$1,623,656**	**$350,678**

[1]Includes some state funds.

(table continues)

Direct Premiums Written, Property/Casualty Insurance, By State By Line, 2018[1] ($000) (Cont'd)

State	Aircraft	Earthquake	Federal flood	Credit	Warranty	Accident and health
Alabama	$17,541	$7,351	$28,316	$35,416	$11,845	$86,830
Alaska	33,189	27,951	1,535	2,545	467	15,431
Arizona	46,394	8,860	15,800	22,248	35,509	116,590
Arkansas	22,543	34,541	10,258	15,712	7,356	59,697
California	160,264	1,872,381	143,540	143,251	183,962	561,226
Colorado	46,217	10,049	13,851	25,626	32,615	110,487
Connecticut	33,009	6,940	45,584	34,028	7,600	62,610
Delaware	12,063	1,373	14,744	9,623	23,722	151,796
D.C.	2,211	3,212	1,350	11,271	25	136,275
Florida	114,101	28,070	819,242	122,909	566,899	284,735
Georgia	58,068	16,351	40,202	49,946	51,976	154,593
Hawaii	8,566	12,237	36,706	7,854	3,882	13,763
Idaho	11,801	3,628	3,382	3,598	6,447	19,398
Illinois	66,045	71,278	28,012	74,018	254,658	319,096
Indiana	20,108	40,769	16,283	36,433	35,573	254,872
Iowa	11,927	4,113	10,137	12,627	7,268	69,733
Kansas	20,871	7,698	6,020	16,903	178,465	63,974
Kentucky	8,158	50,520	12,279	42,260	12,344	50,767
Louisiana	33,176	8,046	221,062	34,930	5,112	70,831
Maine	4,057	1,919	7,760	8,676	3,398	14,556
Maryland	20,549	11,607	30,105	25,162	23,517	88,151
Massachusetts	16,448	25,507	67,342	41,558	14,775	96,419
Michigan	28,320	8,387	15,319	64,778	574,769	162,730
Minnesota	31,243	4,709	5,949	13,607	36,198	77,368
Mississippi	13,205	16,551	33,807	25,492	5,141	86,218
Missouri	24,467	100,269	16,763	33,342	43,422	160,534
Montana	10,170	5,875	2,781	1,998	1,690	38,217
Nebraska	12,872	2,260	6,498	5,795	5,680	126,823
Nevada	24,942	23,831	6,382	5,656	13,317	38,656
New Hampshire	5,888	2,957	7,392	8,416	5,022	19,204
New Jersey	17,560	25,185	177,573	89,640	26,719	182,569
New Mexico	7,129	2,208	8,160	8,411	5,356	23,503
New York	57,047	50,715	171,671	206,492	62,730	568,831
North Carolina	32,691	11,638	91,203	42,439	41,910	135,279
North Dakota	6,089	751	5,239	779	371	10,250
Ohio	54,337	33,002	25,371	66,747	48,717	191,920
Oklahoma	18,822	19,932	8,012	19,588	18,664	61,963
Oregon	27,349	94,567	16,950	12,496	6,605	70,210
Pennsylvania	32,791	17,205	52,727	67,323	79,081	309,505
Rhode Island	10,228	2,522	16,308	7,216	1,964	21,258
South Carolina	13,096	46,369	114,500	24,025	7,159	95,601
South Dakota	6,773	442	2,359	3,595	1,561	17,478
Tennessee	27,703	83,493	19,772	37,097	9,496	142,485
Texas	181,333	33,495	344,689	283,697	414,591	605,779
Utah	22,642	53,082	2,193	12,019	29,863	77,790
Vermont	1,639	1,059	4,469	2,573	5,983	14,978
Virginia	46,104	19,490	60,772	22,546	20,392	142,541
Washington	41,759	198,103	24,955	35,444	69,578	98,698
West Virginia	3,414	1,315	12,343	8,130	3,702	30,244
Wisconsin	19,604	4,317	9,402	21,257	29,179	180,853
Wyoming	5,374	3,825	1,172	1,222	711	25,937
United States	**$1,551,899**	**$3,121,953**	**$2,838,242**	**$1,908,413**	**$3,036,985**	**$6,519,248**

[1]Includes some state funds.

(table continues)

Direct Premiums Written, Property/Casualty Insurance, By State By Line, 2018[1] ($000) (Cont'd)

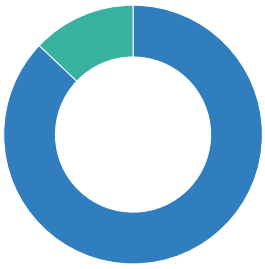
State	Multiple peril crop	Private crop	Mortgage guaranty	Miscellaneous	Private flood
Alabama	$64,994	$1,326	$59,553	$33,287	$4,717
Alaska	68	0	17,984	1,389	726
Arizona	96,739	3,821	164,510	28,720	13,616
Arkansas	125,621	20,651	33,393	11,595	2,919
California	424,577	15,388	464,561	101,477	83,599
Colorado	176,482	14,805	126,115	29,635	6,815
Connecticut	6,520	0	69,337	4,729	8,554
Delaware	9,126	139	20,685	1,022	1,870
D.C.	0	0	25,069	54,144	2,023
Florida	104,807	143	359,914	192,116	79,664
Georgia	151,403	1,838	179,689	40,345	13,823
Hawaii	1,247	0	18,129	2,861	3,511
Idaho	71,574	12,415	41,469	2,303	1,686
Illinois	626,943	103,410	229,662	35,989	15,571
Indiana	330,186	30,191	107,135	12,439	9,754
Iowa	612,517	117,767	48,811	6,794	9,262
Kansas	642,245	54,346	44,570	6,162	5,620
Kentucky	145,697	8,831	41,787	5,210	5,563
Louisiana	80,211	3,478	61,673	21,188	20,519
Maine	10,924	4	17,590	1,167	1,826
Maryland	28,307	64	134,169	16,729	6,161
Massachusetts	3,715	0	122,437	32,656	17,036
Michigan	159,322	7,206	171,551	41,928	7,287
Minnesota	569,464	112,693	166,767	30,634	6,072
Mississippi	125,501	3,552	25,555	23,336	5,402
Missouri	373,730	26,344	87,811	20,306	10,054
Montana	191,333	1,506	17,469	2,291	1,108
Nebraska	513,674	212,026	32,056	7,537	3,426
Nevada	21,792	0	71,042	3,764	4,599
New Hampshire	413	0	31,130	4,149	1,579
New Jersey	4,439	91	151,696	39,721	33,571
New Mexico	57,138	2,390	28,964	10,008	2,026
New York	53,504	64	171,861	105,132	47,243
North Carolina	185,384	6,295	171,392	31,669	10,477
North Dakota	871,803	110,287	13,810	1,106	1,809
Ohio	235,654	20,397	165,766	54,343	15,400
Oklahoma	204,531	6,522	47,349	15,780	3,076
Oregon	50,279	2,829	80,197	19,975	6,248
Pennsylvania	49,357	656	183,605	22,839	22,141
Rhode Island	101	0	17,350	3,464	2,317
South Carolina	75,717	85	85,944	10,256	13,703
South Dakota	601,807	54,273	12,752	2,029	834
Tennessee	86,536	3,140	91,821	18,088	12,180
Texas	1,059,117	50,044	430,307	122,897	63,221
Utah	15,288	67	84,123	7,691	2,712
Vermont	2,459	2	11,514	967	699
Virginia	64,520	3,497	154,318	21,310	9,476
Washington	170,010	17,443	171,639	29,291	12,061
West Virginia	2,035	-2	13,426	3,312	1,805
Wisconsin	214,803	16,034	110,887	11,734	5,896
Wyoming	16,390	1,951	11,544	525	900
United States	**$9,690,003**	**$1,048,009**	**$5,201,889**	**$1,308,040**	**$622,160**

[1]Includes some state funds.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

AUTO: PREMIUMS

Total Auto Net Premiums Written By Sector, 2018 ($ billions)

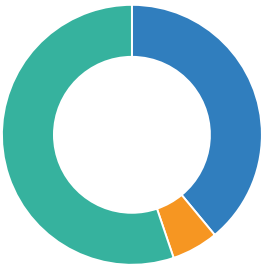


Private passenger auto	87.1%	$240.9
Commercial auto	12.9	35.7

Liability	62.0%	$171.4
Collision/ comprehensive	38.0	105.2

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Auto Share Of P/C Industry Net Premiums Written, 2018 ($ billions)



Private passenger auto	39.0%	$240.9
Commercial auto	5.8	35.7
All other P/C	55.2	340.4

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

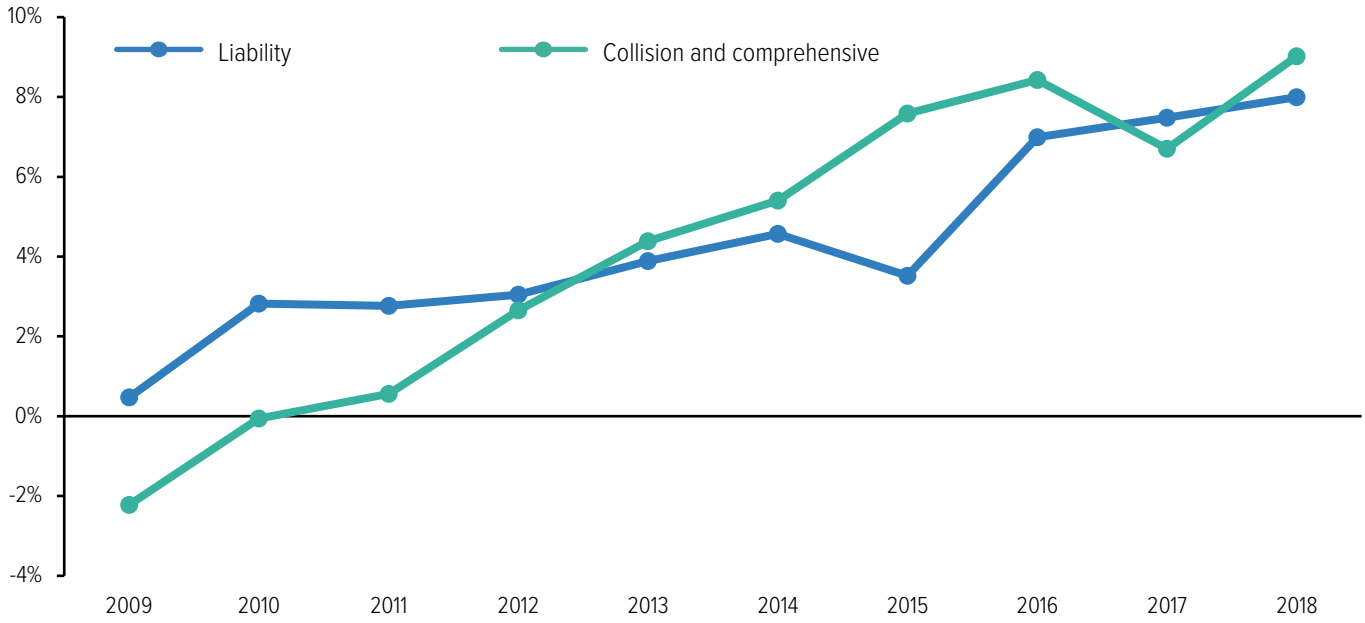
Private Passenger Automobile Insurance, 2009-2018 ($000)

	Liability				Collision/comprehensive			
Year	Net premiums written[1]	Annual percent change	Combined ratio[2]	Annual point change[3]	Net premiums written[1]	Annual percent change	Combined ratio[2]	Annual point change[3]
2009	$94,990,682	0.5%	106.2	2.7 pts.	$62,630,693	-2.2%	93.0	-2.8 pts.
2010	97,672,826	2.8	105.9	-0.3	62,595,851	-0.1	93.4	0.4
2011	100,369,441	2.8	103.8	-2.1	62,948,280	0.6	99.6	6.3
2012	103,429,677	3.0	103.2	-0.6	64,619,667	2.7	100.2	0.6
2013	107,446,382	3.9	103.6	0.4	67,452,663	4.4	98.7	-1.5
2014	112,354,903	4.6	103.8	0.2	71,096,640	5.4	100.2	1.5
2015	116,305,809	3.5	107.9	4.2	76,486,433	7.6	99.4	-0.8
2016	124,439,721	7.0	109.4	1.5	82,931,826	8.4	101.5	2.1
2017	133,745,174	7.5	105.5	-3.9	88,489,745	6.7	98.3	-3.2
2018	144,438,315	8.0	100.5	-5.0	96,469,904	9.0	93.7	-4.6

[1]After reinsurance transactions, excludes state funds. [2]After dividends to policyholders. A drop in the combined ratio represents an improvement; an increase represents a deterioration. [3]Calculated from unrounded numbers.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Percent Change From Prior Year, Net Premiums Written, Private Passenger Auto Insurance, 2009-2018



Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Top 10 Writers Of Private Passenger Auto Insurance By Direct Premiums Written, 2018 ($000)

Rank	Group/company	Direct premiums written[1]	Market share[2]
1	State Farm Mutual Automobile Insurance	$41,963,578	17.0%
2	Berkshire Hathaway Inc.	33,075,434	13.4
3	Progressive Corp.	27,058,768	11.0
4	Allstate Corp.	22,663,214	9.2
5	USAA Insurance Group	14,467,936	5.9
6	Liberty Mutual	11,776,654	4.8
7	Farmers Insurance Group of Companies	10,496,476	4.3
8	Nationwide Mutual Group	6,726,799	2.7
9	American Family Insurance Group	4,975,128	2.0
10	Travelers Companies Inc.	4,697,743	1.9

[1]Before reinsurance transactions, includes state funds. [2]Based on U.S. total, includes territories.
Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Commercial Automobile Insurance, 2009-2018 ($000)

Year	Liability				Collision/comprehensive			
	Net premiums written[1]	Annual percent change	Combined ratio[2]	Annual point change[3]	Net premiums written[1]	Annual percent change	Combined ratio[2]	Annual point change[3]
2009	$16,581,981	-7.0%	100.6	3.1 pts.	$5,347,981	-10.7%	96.9	2.3 pts.
2010	16,249,433	-2.0	97.1	-3.5	4,870,380	-8.9	101.6	4.7
2011	16,382,082	0.8	101.1	4.0	4,647,376	-4.6	112.0	10.4
2012	16,984,612	3.7	106.6	5.5	5,099,427	9.7	109.2	-2.9
2013	18,355,088	8.1	107.2	0.7	5,536,307	8.6	105.2	-3.9
2014	19,570,622	6.6	103.8	-3.4	6,123,604	10.6	103.2	-2.0
2015	20,914,990	6.9	111.4	7.6	6,725,088	9.8	100.9	-2.3
2016	21,315,245	1.9	113.5	2.1	6,949,192	3.3	102.1	1.2
2017	22,881,174	7.3	113.4	[4]	7,757,275	11.6	104.2	2.1
2018	26,952,071	17.8	111.7	-1.7	8,778,794	13.2	96.9	-7.3

[1]After reinsurance transactions, excludes state funds. [2]After dividends to policyholders. A drop in the combined ratio represents an improvement; an increase represents a deterioration. [3]Calculated from unrounded numbers. [4]Less than 0.1 point.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Top 10 Writers Of Commercial Auto Insurance By Direct Premiums Written, 2018 ($000)

Rank	Group/company	Direct premiums written[1]	Market share[2]
1	Progressive Corp.	$4,405,316	10.8%
2	Travelers Companies Inc.	2,564,685	6.3
3	Liberty Mutual	1,798,487	4.4
4	Nationwide Mutual Group	1,634,230	4.0
5	Berkshire Hathaway Inc.	1,514,213	3.7
6	Old Republic International Corp.	1,439,949	3.5
7	Zurich Insurance Group	1,372,901	3.4
8	Auto-Owners Insurance Co.	1,002,642	2.5
9	Tokio Marine Group	763,161	1.9
10	Chubb Ltd.	741,141	1.8

[1]Before reinsurance transactions, includes state funds. [2]Based on U.S. total, includes territories.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

AUTO: COSTS/EXPENDITURES

AAA's 2019 *Your Driving Costs* study found that the average cost to own and operate a 2019 model vehicle was $9,282 in 2019. The average insurance cost for medium sedans was $1,251. AAA insurance cost estimates are based on a full coverage policy for a driver who is under 65 years of age, has more than six years of driving experience, has had no accidents; and lives in a suburban/urban location. The policy coverage is for a policy with $100,000/$300,000 personal liability, $25,000 medical, $100,000 property and $25,000/$50,000 uninsured/underinsured motorist coverage, with a $500 deductible for collision and comprehensive claims. These figures are not comparable with the National Association of Insurance Commissioners' Auto Expenditures data, below.

77 percent of insured drivers purchase comprehensive coverage in addition to liability insurance, and 73 percent buy collision coverage, based on an I.I.I. analysis of 2016 NAIC data.

Average Expenditures For Auto Insurance, 2007-2016

Year	Average expenditure	Percent change
2007	$798.54	-2.4%
2008	790.66	-1.0
2009	786.65	-0.5
2010	789.29	0.3
2011	795.01	0.7
2012	812.40	2.2
2013	838.61	3.2
2014	865.46	3.2
2015	889.09	2.7
2016	935.80	5.3

Source: © 2018 National Association of Insurance Commissioners (NAIC).

Auto Insurance Expenditures, By State

The tables below show estimated average expenditures for private passenger automobile insurance by state from 2012 to 2016 and provide approximate measures of the relative cost of automobile insurance to consumers in each state. To calculate average expenditures, the National Association of Insurance Commissioners (NAIC) assumes that all insured vehicles carry liability coverage but not necessarily collision or comprehensive coverage. The average expenditure measures what consumers actually spend for insurance.

Expenditures are affected by the coverages purchased as well as other factors. In states with a healthy economy, people are more likely to purchase new cars. Since new car owners are more likely to purchase physical damage coverages, these states will have a higher average expenditure. The NAIC notes that three variables—urban population, miles driven per number of highway miles, and disposable income per capita—are correlated with the state auto insurance premiums. It also notes that high-premium states tend to also be highly urban, with higher wage and price levels, and greater traffic density. Other factors can also affect auto insurance prices.

Top 10 Most Expensive And Least Expensive States For Auto Insurance, 2016[1]

Rank	Most expensive states	Average expenditure
1	New Jersey	$1,309.29
2	Louisiana	1,302.11
3	New York	1,301.64
4	Michigan	1,270.70
5	Florida	1,259.55
6	D.C.	1,246.80
7	Rhode Island	1,193.58
8	Delaware	1,159.86
9	Massachusetts	1,096.53
10	Connecticut	1,086.17

Rank	Least expensive states	Average expenditure
1	Idaho	$599.77
2	Iowa	628.10
3	North Dakota	639.10
4	South Dakota	648.01
5	Maine	650.38
6	Wyoming	677.53
7	Wisconsin	688.32
8	Vermont	691.56
9	Indiana	692.29
10	North Carolina	699.91

[1]Based on average automobile insurance expenditures.

Average Expenditures For Auto Insurance By State, 2012-2016

State	2016					2015		Average expenditure percent change, 2015-2016
	Liability	Collision	Comprehensive	Average expenditure	Rank[1]	Average expenditure	Rank[1]	
Alabama	$423.98	$337.50	$163.16	$769.20	36	$722.89	37	6.4%
Alaska	525.35	356.45	138.67	859.15	23	872.39	17	-1.5
Arizona	539.68	290.88	191.86	890.74	20	843.89	21	5.6
Arkansas	413.17	340.33	196.58	771.55	35	736.43	36	4.8
California	520.81	423.75	99.73	892.55	19	841.45	22	6.1
Colorado	570.10	307.27	194.65	935.39	15	857.52	18	9.1
Connecticut	678.41	383.38	131.25	1,086.17	10	1,048.56	10	3.6
Delaware	800.20	330.90	128.01	1,159.86	8	1,145.66	8	1.2
D.C.	674.79	477.17	228.59	1,246.80	6	1,202.16	5	3.7
Florida	903.30	312.33	123.10	1,259.55	5	1,185.31	6	6.3
Georgia	612.41	351.95	164.71	966.00	14	896.50	14	7.8
Hawaii	459.78	327.79	103.02	781.90	33	762.75	31	2.5
Idaho	358.45	229.83	122.90	599.77	51	573.83	51	4.5
Illinois	467.99	322.33	131.89	836.67	27	803.64	26	4.1
Indiana	399.15	264.22	126.48	692.29	43	666.74	43	3.8
Iowa	311.99	231.81	193.99	628.10	50	599.03	50	4.9
Kansas	366.67	269.98	246.23	713.50	39	698.45	39	2.2
Kentucky	548.90	280.74	147.32	838.89	26	801.97	27	4.6
Louisiana	835.28	438.37	222.45	1,302.11	2	1,231.77	3	5.7
Maine	354.95	273.79	105.29	650.38	47	617.73	48	5.3
Maryland	646.54	375.51	158.50	1,076.56	11	1,016.73	11	5.9
Massachusetts	623.01	408.17	139.30	1,096.53	9	1,058.50	9	3.6
Michigan	812.16	436.72	158.69	1,270.70	4	1,231.39	4	3.2
Minnesota	466.75	244.98	188.95	808.00	29	787.74	28	2.6
Mississippi	471.70	344.01	220.01	858.64	24	827.31	24	3.8
Missouri	444.65	291.35	189.68	791.03	31	745.04	34	6.2
Montana	388.16	270.43	232.81	706.88	41	692.48	40	2.1
Nebraska	381.80	248.74	234.45	708.36	40	681.54	41	3.9
Nevada	713.15	318.36	116.39	1,026.22	12	990.17	12	3.6
New Hampshire	410.61	319.85	114.86	801.52	30	775.03	30	3.4
New Jersey	902.97	390.94	131.04	1,309.29	1	1,265.58	1	3.5
New Mexico	495.33	290.17	178.38	780.79	34	762.37	32	2.4
New York	840.00	414.27	178.10	1,301.64	3	1,234.87	2	5.4
North Carolina	370.54	321.05	145.12	699.91	42	655.37	46	6.8
North Dakota	296.56	248.18	228.79	639.10	49	637.54	47	0.2
Ohio	407.68	284.94	124.30	726.95	38	702.63	38	3.5
Oklahoma	476.10	331.07	233.14	850.62	25	825.92	25	3.0
Oregon	622.14	238.91	96.94	877.09	21	828.03	23	5.9
Pennsylvania	515.38	346.32	155.47	918.11	18	878.20	16	4.5
Rhode Island	790.13	438.86	135.57	1,193.58	7	1,146.97	7	4.1
South Carolina	571.62	284.41	190.67	922.66	17	853.53	20	8.1
South Dakota	310.82	219.21	277.34	648.01	48	615.78	49	5.2
Tennessee	423.47	322.28	153.22	759.99	37	737.28	35	3.1
Texas	575.17	403.29	215.84	1,008.91	13	934.22	13	8.0
Utah	523.73	276.41	113.49	824.46	28	784.10	29	5.1
Vermont	344.81	310.77	134.78	691.56	44	680.18	42	1.7
Virginia	446.10	295.50	142.30	785.82	32	750.81	33	4.7
Washington	621.27	281.24	108.87	924.47	16	884.23	15	4.6
West Virginia	493.72	339.00	208.95	870.23	22	855.25	19	1.8
Wisconsin	385.51	238.26	143.62	688.32	45	664.81	44	3.5
Wyoming	329.06	284.65	263.98	677.53	46	656.64	45	3.2
United States	**$566.51**	**$342.40**	**$153.32**	**$935.80**		**$889.09**		**5.3%**

(table continues)

Average Expenditures For Auto Insurance By State, 2012-2016 (Cont'd)

State	Average expenditure		
	2014	2013	2012
Alabama	$695.06	$673.51	$659.06
Alaska	883.60	889.29	873.15
Arizona	837.24	811.45	781.71
Arkansas	728.65	703.04	679.46
California	807.58	782.57	752.78
Colorado	821.19	777.95	737.95
Connecticut	1,031.70	1,011.28	986.73
Delaware	1,125.74	1,101.12	1,065.37
D.C.	1,191.47	1,187.54	1,154.91
Florida	1,140.85	1,143.98	1,128.54
Georgia	839.94	800.58	768.34
Hawaii	751.61	739.26	735.17
Idaho	571.74	553.38	534.56
Illinois	775.24	744.75	731.31
Indiana	642.27	621.77	637.46
Iowa	585.71	572.14	561.26
Kansas	688.82	660.29	632.07
Kentucky	783.06	772.80	759.70
Louisiana	1,192.92	1,146.29	1,112.53
Maine	606.90	592.82	582.71
Maryland	1,001.16	979.15	966.29
Massachusetts	1,035.52	1,007.98	976.65
Michigan	1,227.36	1,131.46	1,048.87
Minnesota	772.51	744.53	718.61
Mississippi	796.99	768.20	748.44
Missouri	724.15	704.22	683.82
Montana	694.67	677.83	658.42
Nebraska	658.79	638.67	616.78
Nevada	969.66	935.90	905.82
New Hampshire	751.28	733.02	717.15
New Jersey	1,263.69	1,254.39	1,220.00
New Mexico	749.43	722.66	695.09
New York	1,208.89	1,181.91	1,151.78
North Carolina	643.84	624.76	611.18
North Dakota	630.24	606.56	576.08
Ohio	682.71	659.37	634.91
Oklahoma	807.81	768.25	740.11
Oregon	818.84	783.46	741.51
Pennsylvania	858.10	841.42	827.75
Rhode Island	1,106.09	1,066.27	1,034.52
South Carolina	824.59	794.40	772.14
South Dakota	601.33	579.37	556.51
Tennessee	724.80	704.20	673.90
Texas	905.64	864.24	823.80
Utah	766.27	733.51	713.20
Vermont	665.17	655.66	643.47
Virginia	743.15	718.73	691.80
Washington	871.82	838.30	809.56
West Virginia	870.84	858.85	846.74
Wisconsin	646.47	621.07	598.84
Wyoming	668.81	639.51	623.70
United States	**$865.46**	**$838.61**	**$812.40**

[1]Ranked highest to lowest by average expenditure. Note: Average expenditure=Total written premium/liability car years. A car year is equal to 365 days of insured coverage for a single vehicle. The NAIC does not rank state average expenditures and does not endorse any conclusion drawn from these data.

Source: © 2018 National Association of Insurance Commissioners (NAIC).

Auto Insurance Claims And Expenses

The combined ratio after dividends is a measure of underwriting profitability. It reflects the percentage of each premium dollar an insurer spends on claims (the claims ratio) and percentage of each premium dollar that goes toward expenses (the expense ratio). The combined ratio does not take investment income into account. The private passenger auto insurance industry combined ratio after dividends was 97.8 in 2018, reflecting a claims ratio of 74.5 percent and an expense ratio of 22.8 percent. Dividends to policyholders account for the remainder. A combined ratio above 100 indicates an underwriting loss.

Private Passenger Auto Insurance Industry Losses And Underwriting Expenses, 2018[1]

Expense	Percent of premiums
Losses and related expenses[2]	
Loss and loss adjustment expense (LAE) ratio	**74.5%**
Incurred losses	63.6
Defense and cost containment expenses incurred	2.7
Adjusting and other expenses incurred	8.3
Operating expenses[3]	
Expense ratio	**22.8%**
Net commissions and brokerage expenses incurred	8.8
Taxes, licenses and fees	2.1
Other acquisition and field supervision expenses incurred	7.2
General expenses incurred	4.7
Dividends to policyholders[2]	**0.5%**
Combined ratio after dividends[4]	**97.8%**

[1]After reinsurance transactions. [2]As a percent of net premiums earned ($236.6 billion in 2018). [3]As a percent of net premiums written ($240.9 billion in 2018). [4]Sum of loss and LAE, expense and dividends ratios.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

AUTO: CLAIMS

Liability insurance pays for the policyholder's legal responsibility to others for bodily injury or property damage. Collision and comprehensive insurance cover property damage and theft to the policyholder's car.

Private Passenger Auto Insurance Losses, 2009-2018[1]

	Liability			
	Bodily injury[2]		Property damage[3]	
Year	Claim frequency[4]	Claim severity[5,6]	Claim frequency[4]	Claim severity[5,6]
2009	0.89	$13,891	3.49	$2,869
2010	0.91	14,406	3.53	2,881
2011	0.92	14,848	3.56	2,958
2012	0.95	14,690	3.50	3,073
2013	0.95	15,441	3.55	3,231
2014	0.87	16,642	3.65	3,289
2015	0.91	16,745	3.72	3,484
2016	1.00	16,141	3.85	3,695
2017	1.10	15,270	3.97	3,661
2018	1.11	15,785	3.89	3,841
	Physical damage[7]			
	Collision		Comprehensive[8]	
Year	Claim frequency[4]	Claim severity[5]	Claim frequency[4,9]	Claim severity[5,9]
2009	5.48	$2,869	2.75	$1,389
2010	5.69	2,778	2.62	1,476
2011	5.75	2,861	2.79	1,490
2012	5.57	2,950	2.62	1,585
2013	5.71	3,144	2.57	1,621
2014	5.93	3,169	2.79	1,572
2015	6.01	3,377	2.72	1,679
2016	6.12	3,446	2.76	1,749
2017	6.13	3,428	2.85	1,813
2018	6.11	3,574	3.02	1,833

[1]For all limits combined. Data are for paid claims. [2]Excludes Massachusetts and most states with no-fault automobile insurance laws. [3]Excludes Massachusetts, Michigan and New Jersey. [4]Claim frequency is claims per 100 earned car years. A car year is equal to 365 days of insured coverage for one vehicle. [5]Claim severity is the size of the loss. [6]Includes loss adjustment expenses. [7]Excludes Massachusetts, Michigan and Puerto Rico. Based on coverage with a $500 deductible. [8]Excludes wind and water losses. [9]Includes glass losses.

Source: ISO®, a Verisk Analytics® business.

In 2018, 1.1 percent of people with liability insurance had a bodily injury liability claim, while 3.9 percent of those with liability insurance had a property damage liability claim, according to ISO.

In 2018, 6.1 percent of collision insurance policyholders had a claim, while 3.0 percent of people with comprehensive coverage had a claim.

In 2018 the average auto liability claim for property damage was $3,841; the average auto liability claim for bodily injury was $15,785.

In 2018 the average collision claim was $3,574; the average comprehensive claim was $1,833.

Incurred Losses For Auto Insurance, 2014-2018[1] ($000)

	2014	2015	2016	2017	2018
Private passenger auto					
Liability	$72,008,280	$79,098,617	$88,249,238	$90,495,835	$91,726,649
Physical damage	45,301,757	48,564,511	55,738,221	57,052,411	58,763,318
Commercial auto					
Liability	11,957,182	13,587,152	14,987,073	15,528,570	17,774,673
Physical damage	3,645,335	3,902,124	4,279,414	4,874,748	4,993,846
Total	**$132,912,554**	**$145,152,404**	**$163,253,946**	**$167,951,564**	**$173,258,486**

[1]Losses occurring within a fixed period, whether or not adjusted or paid during the same period, after reinsurance transactions.
Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

AUTO: HIGH-RISK MARKETS

The Shared/Residual Market

All states and the District of Columbia use special systems to guarantee that auto insurance is available to those who cannot obtain it in the private market. These systems are commonly known as assigned risk plans. The assigned risk and other plans are known in the insurance industry as the shared, or residual, market. In assigned risk plans, high-risk policyholders are proportionally assigned to insurance companies doing business in the state. In the voluntary, or regular, market, auto insurers are free to select policyholders.

The percentage of vehicles insured in the shared market is dropping, in part because of the evolution of the nonstandard sector of the voluntary market. The nonstandard market is a niche market for drivers who have a worse than average driving record or drive specialized cars such as high-powered sports cars or custom-built cars. It is made up of both small specialty companies, whose only business is the nonstandard market, and well-known auto insurance companies with nonstandard divisions.

Insured Vehicles

In 2015, 203 million private passenger vehicles were insured in the United States excluding Texas, up from 198 million in 2014, according to latest data available from AIPSO. The figures include cars insured by private auto insurers in the voluntary market as well as those insured in the so-called shared or residual markets set up by states to cover hard-to-insure risks. In 2015 California had the most insured private passenger cars (26.3 million), followed by Florida (12.7 million) and New York (9.6 million), including vehicles in the voluntary and residual markets.

Uninsured Motorists

Uninsured and underinsured motorist coverage reimburses policyholders in an accident involving an uninsured, underinsured or hit-and-run driver. Twenty states and the District of Columbia have mandatory requirements for uninsured or underinsured motorist coverage. More than half of the states have passed laws and begun to develop and implement online auto insurance verification systems to identify uninsured motorists.

In 2015, 13.0 percent of motorists, or about one in eight drivers, were uninsured, according to a 2017 study (latest data available) by the Insurance Research Council (IRC). The percentage has been rising since it hit a record low of 12.2 percent in 2011. Florida had the highest percentage of uninsured motorists, 26.7 percent, and Maine had the lowest, 4.5 percent. IRC measures the number of uninsured motorists based on insurance claims, using a ratio of insurance claims made by people who were injured by uninsured drivers relative to the claims made by people who were injured by insured drivers.

Estimated Percentage Of Uninsured Motorists, 1992-2015[1]

Year	Percent	Year	Percent	Year	Percent
1992	15.6%	2000	13.4%	2008	14.3%
1993	16.0	2001	14.2	2009	13.8
1994	15.1	2002	14.5	2010	12.3
1995	14.2	2003	14.9	2011	12.2
1996	13.8	2004	14.6	2012	12.6
1997	13.2	2005	14.6	2013	12.7
1998	13.0	2006	14.3	2014	13.0
1999	12.8	2007	13.8	2015	13.0

[1]Percentage of uninsured drivers, as measured by the ratio of uninsured motorists (UM) claims to bodily injury (BI) claim frequencies.
Source: Insurance Research Council.

Top 10 Highest And Lowest States By Estimated Percentage Of Uninsured Motorists, 2015[1]

Highest			Lowest		
Rank	State	Percent uninsured	Rank	State	Percent uninsured
1	Florida	26.7%	1	Maine	4.5%
2	Mississippi	23.7	2	New York	6.1
3	New Mexico	20.8	3	Massachusetts	6.2
4	Michigan	20.3	4	North Carolina	6.5
5	Tennessee	20.0	5	Vermont	6.8
6	Alabama	18.4	6	Nebraska	6.8
7	Washington	17.4	7	North Dakota	6.8
8	Indiana	16.7	8	Kansas	7.2
9	Arkansas	16.6	9	Pennsylvania	7.6
10	D.C.	15.6	10	South Dakota	7.7

[1]Percentage of uninsured drivers, as measured by the ratio of uninsured motorists (UM) claims to bodily injury (BI) claim frequencies.
Source: Insurance Research Council.

Estimated Percentage Of Uninsured Motorists By State, 2015[1]

State	Uninsured	Rank[2]	State	Uninsured	Rank[2]	State	Uninsured	Rank[2]
Alabama	18.4%	6	Kentucky	11.5%	26	North Dakota	6.8%	45
Alaska	15.4	11	Louisiana	13.0	20	Ohio	12.4	22
Arizona	12.0	24	Maine	4.5	51	Oklahoma	10.5	31
Arkansas	16.6	9	Maryland	12.4	23	Oregon	12.7	21
California	15.2	12	Massachusetts	6.2	49	Pennsylvania	7.6	43
Colorado	13.3	19	Michigan	20.3	4	Rhode Island	15.2	13
Connecticut	9.4	36	Minnesota	11.5	27	South Carolina	9.4	37
Delaware	11.4	28	Mississippi	23.7	2	South Dakota	7.7	42
D.C.	15.6	10	Missouri	14.0	17	Tennessee	20.0	5
Florida[3]	26.7	1	Montana	9.9	33	Texas	14.1	16
Georgia	12.0	25	Nebraska	6.8	46	Utah	8.2	39
Hawaii	10.6	30	Nevada	10.6	29	Vermont	6.8	47
Idaho	8.2	40	New Hampshire	9.9	35	Virginia	9.9	34
Illinois	13.7	18	New Jersey	14.9	14	Washington	17.4	7
Indiana	16.7	8	New Mexico	20.8	3	West Virginia	10.1	32
Iowa	8.7	38	New York	6.1	50	Wisconsin	14.3	15
Kansas	7.2	44	North Carolina	6.5	48	Wyoming	7.8	41

[1]Percentage of uninsured drivers, as measured by the ratio of uninsured motorists (UM) claims to bodily injury (BI) claim frequencies. [2]Rank calculated from unrounded data.
[3]In Florida, compulsory auto laws apply to personal injury protection (PIP) and physical damage, but not to third-party bodily injury coverage.
Source: Insurance Research Council.

AUTO: LAWS

Automobile Financial Responsibility Laws

Most states require motor vehicle owners to buy a minimum amount of bodily injury and property damage liability insurance before they can legally drive their vehicles. All states have financial responsibility laws, which means that people involved in an accident will be required to furnish proof of financial responsibility up to a certain amount. To comply with these laws, most drivers purchase liability insurance. Despite these laws a significant percentage of drivers are uninsured.

Motorcycle insurance is compulsory in every state except Hawaii, Michigan, Montana and New Hampshire, which is not a compulsory insurance state, according to the American Property Casualty Insurers Association. Minimum automobile liability limits and the insurance required by state law are the same for motorcycles as for autos and other motor vehicles.

The chart that follows shows mandatory requirements for bodily injury (BI), property damage (PD) liability, no-fault personal injury protection (PIP), and uninsured (UM) and underinsured (UIM) motorists coverage. It also indicates which states have only financial responsibility (FR) laws. In the chart below, in the minimum liability limits column, the first two numbers refer to bodily injury (BI) liability limits and the third number to property damage (PD) liability. For example, 20/40/10 means coverage up to $40,000 for all persons injured in an accident, subject to a limit of $20,000 for one individual, and $10,000 coverage for property damage.

Automobile Financial Responsibility Limits By State

State	Insurance required	Minimum liability limits[1]
Alabama	BI & PD liability	25/50/25
Alaska	BI & PD liability	50/100/25
Arizona	BI & PD liability	25/50/15[2]
Arkansas	BI & PD liability, PIP	25/50/25
California	BI & PD liability	15/30/5[3]
Colorado	BI & PD liability	25/50/15
Connecticut	BI & PD liability, UM, UIM	25/50/25
Delaware	BI & PD liability, PIP	25/50/10
D.C.	BI & PD liability, UM	25/50/10
Florida	PD liability, PIP	10/20/10[4]
Georgia	BI & PD liability	25/50/25
Hawaii	BI & PD liability, PIP	20/40/10
Idaho	BI & PD liability	25/50/15
Illinois	BI & PD liability, UM, UIM	25/50/20
Indiana	BI & PD liability	25/50/25
Iowa	BI & PD liability	20/40/15
Kansas	BI & PD liability, PIP	25/50/25
Kentucky	BI & PD liability, PIP, UM, UIM	25/50/25[4]
Louisiana	BI & PD liability	15/30/25
Maine	BI & PD liability, UM, UIM, Medpay	50/100/25[5]
Maryland	BI & PD Liability, PIP, UM, UIM	30/60/15
Massachusetts	BI & PD liability, PIP	20/40/5
Michigan	BI & PD liability, PIP	20/40/10
Minnesota	BI & PD liability, PIP, UM, UIM	30/60/10
Mississippi	BI & PD liability	25/50/25
Missouri	BI & PD liability, UM	25/50/25
Montana	BI & PD liability	25/50/20
Nebraska	BI & PD liability, UM, UIM	25/50/25
Nevada	BI & PD liability	25/50/20
New Hampshire	FR only	25/50/25
New Jersey	BI & PD liability, PIP, UM, UIM	15/30/5[6]

(table continues)

Automobile Financial Responsibility Limits By State (Cont'd)

State	Insurance required	Minimum liability limits[1]
New Mexico	BI & PD liability	25/50/10
New York	BI & PD liability, PIP, UM, UIM	25/50/10[7]
North Carolina	BI & PD liability, UM, UIM	30/60/25
North Dakota	BI & PD liability, PIP, UM, UIM	25/50/25
Ohio	BI & PD liability	25/50/25
Oklahoma	BI & PD liability	25/50/25
Oregon	BI & PD liability, PIP, UM, UIM	25/50/20
Pennsylvania	BI & PD liability, PIP	15/30/5
Rhode Island	BI & PD liability	25/50/25
South Carolina	BI & PD liability, UM	25/50/25
South Dakota	BI & PD liability, UM, UIM	25/50/25
Tennessee	BI & PD liability	25/50/15[4]
Texas	BI & PD liability, PIP	30/60/25
Utah	BI & PD liability, PIP	25/65/15[4]
Vermont	BI & PD liability, UM, UIM	25/50/10
Virginia	BI & PD liability[8], UM, UIM	25/50/20
Washington	BI & PD liability	25/50/10
West Virginia	BI & PD liability, UM, UIM	25/50/25
Wisconsin	BI & PD liability, UM, Medpay	25/50/10
Wyoming	BI & PD liability	25/50/20

[1]The first two numbers refer to bodily injury (BI) liability limits and the third number to property damage (PD) liability. For example, 20/40/10 means coverage up to $40,000 for all persons injured in an accident, subject to a limit of $20,000 for one individual, and $10,000 coverage for property damage. [2]Effective July 1, 2020. [3]Low-cost policy limits for low-income drivers in the California Automobile Assigned Risk Plan are 10/20/3. [4]Instead of policy limits, policyholders can satisfy the requirement with a combined single limit policy. Amounts vary by state. [5]In addition, policyholders must carry coverage for medical payments. [6]Basic policy (optional) limits are 10/10/5. Uninsured and underinsured motorist coverage not available under the basic policy but uninsured and underinsured motorist coverage is required under the standard policy. Special Automobile Insurance Policy available for certain drivers which only covers emergency treatment and a $10,000 death benefit. [7]In addition, policyholders must have 50/100 for wrongful death coverage. [8]Compulsory to buy insurance or pay an uninsured motorists vehicle (UMV) fee to the state department of motor vehicles.

Note: State laws regarding mandatory requirements for uninsured and underinsured motorists vary. State departments of insurance should be consulted to determine whether these coverages are compulsory.

Source: American Property Casualty Insurers Association; state departments of insurance.

State Auto Insurance Laws Governing Liability Coverage

State auto insurance laws governing liability coverage fall into four broad categories: no-fault, choice no-fault, tort liability and add-on. The major differences are whether there are restrictions on the right to sue and whether the policyholder's own insurer pays first-party (i.e., the insured's) benefits, up to the state maximum amount, regardless of who is at fault in the accident.

No-fault: The no-fault system is intended to lower the cost of auto insurance by taking small claims out of the courts. Each insurance company compensates its own policyholders for the cost of minor injuries regardless of who was at fault in the accident. These first-party benefits, known as personal injury protection, are a mandatory coverage in no-fault states but benefits vary by state. In states with the most extensive benefits, a policyholder receives compensation for medical fees, lost wages, funeral costs and other out-of-pocket expenses. The term *no-fault* can be confusing because it is often used to denote any auto insurance system in which each driver's own insurance company pays for certain losses, regardless of fault. In its strict form, the term *no-fault* applies only to states where insurance companies pay first-party benefits and where there are restrictions on the right to sue.

Victims in no-fault states may sue for severe injuries if the case meets certain conditions. These conditions are known as the tort liability threshold, and may be expressed in verbal terms such as death or significant disfigurement (verbal threshold) or in dollar amounts of medical bills (monetary threshold).

Choice no-fault: In choice no-fault states, drivers may select one of two options: a no-fault auto insurance policy, usually with a verbal threshold, or a traditional tort liability policy.

Tort liability: In traditional tort liability states, there are no restrictions on lawsuits. A policyholder at fault in a car crash can be sued by the other driver and by the other driver's passengers for the pain and suffering the crash caused as well as for out-of-pocket expenses such as medical costs.

Add-on: In add-on states, drivers can purchase medical coverage and other first-party benefits from their own insurance company as they do in no-fault states but there are no restrictions on lawsuits. The term add-on is used because in these states first-party benefits have been added on to the traditional tort liability system. In add-on states, first-party coverage may not be mandatory and the benefits may be lower than in true no-fault states.

In the following 28 states auto liability is based on the traditional tort liability system. In these states, there are no restrictions on lawsuits:

Alabama

Alaska

Arizona

California

Colorado

Connecticut

Georgia

Idaho

Illinois

Indiana

Iowa

Louisiana

Maine

Mississippi

Missouri

Montana

Nebraska

Nevada

New Mexico

North Carolina

Ohio

Oklahoma

Rhode Island

South Carolina

Tennessee

Vermont

West Virginia

Wyoming

State Auto Insurance Laws Governing Liability Coverage

	First-party benefits (PIP)[1]		Restrictions on lawsuits		Thresholds for lawsuits	
True no-fault	**Compulsory**	**Optional**	**Yes**	**No**	**Monetary**	**Verbal**
Florida	X		X			X
Hawaii	X		X		X	
Kansas	X		X		X	
Kentucky	X		X	X[2]	X[2]	
Massachusetts	X		X		X	
Michigan	X		X			X
Minnesota	X		X		X	
New Jersey	X		X	X[2]		X[2, 3]
New York	X		X			X
North Dakota	X		X		X	
Pennsylvania	X		X	X[2]		X[2]
Puerto Rico	X		X		X	
Utah	X		X		X	
Add-On						
Arkansas	X			X		
Delaware	X			X		
D.C.		X	X[4]	X[4]		
Maryland	X			X		
New Hampshire		X		X		
Oregon	X			X		
South Dakota		X		X		
Texas	X			X		
Virginia		X		X		
Washington		X		X		
Wisconsin		X		X		

[1]Personal injury protection. [2]Choice no-fault state. Policyholder can choose a policy based on the no-fault system or traditional tort liability. [3]Verbal threshold for the Basic Liability Policy, the Special Policy and the Standard Policy where the policyholder chooses no-fault. The Basic and Special Policies contain lower amounts of coverage. [4]The District of Columbia is neither a true no-fault nor add-on state. Drivers are offered the option of no-fault or fault-based coverage, but in the event of a crash a driver who originally chose no-fault benefits has 60 days to decide whether to receive those benefits or file a claim against the other party.

Source: American Property Casualty Insurers Association.

Seatbelt Laws

Thirty-four states and the District of Columbia have a primary seatbelt enforcement law, which allows law enforcement officers to stop a car for noncompliance with seatbelt laws. The other states have secondary laws; officials can only issue seatbelt violations if they stop motorists for other infractions. New Hampshire, the only state that does not have a seatbelt law that applies to adults, has a child restraint law. Seatbelts were in use 89.6 percent of the time nationwide in 2018, virtually unchanged from 89.7 percent in 2017, according to the National Highway Traffic Safety Administration. Generally, states with stronger seatbelt enforcement laws achieve higher rates of seatbelt use than states with weaker laws.

State Seatbelt Use Laws

State	2018 usage rate	Primary/secondary enforcement[1]	Age requirements	Maximum fine, first offense	Damages reduced[2]
Alabama	91.8%	P	15+ yrs. in front seat	$25	
Alaska	91.6	P	16+ yrs. in all seats	15	X
Arizona	85.9	S	8+ yrs. in front seat; 8-15 yrs. in all seats	10	X
Arkansas	78.0	P	15+ yrs. in front seat	25	
California	95.9	P	16+ yrs. in all seats	20	X
Colorado	86.3	S	16+ yrs. in front seat	71	X
Connecticut	92.1	P	8+ yrs. in front seat	50	
Delaware	92.4	P	16+ yrs. in all seats	25	
D.C.	95.1	P	16+ yrs. in all seats	50	
Florida	90.6	P	6+ yrs. in front seat; 6-17 yrs. in all seats	30	X
Georgia	96.3	P	8-17 yrs. in all seats; 18+ yrs. in front seat	15-25	
Hawaii	97.8	P	8+ yrs. in all seats	45	
Idaho	85.4	S	7+ yrs. in all seats	10	
Illinois	94.6	P	16+ yrs. in all seats	25	
Indiana	93.4	P	16+ yrs. in all seats	25	
Iowa	93.9	P	18+ yrs. in front seat	25	X
Kansas	84.0	P[3]	14+ yrs. in all seats	60	
Kentucky	89.9	P	7 and younger and more than 57 inches tall in all seats; 8+ yrs. in all seats	25	
Louisiana	86.9	P	13+ yrs. in all seats	50	
Maine	88.5	P	18+ yrs. in all seats	50	
Maryland	90.3	P[3]	16+ yrs. in all seats	50	
Massachusetts	81.6	S	13+ yrs. in all seats	25[4]	
Michigan	93.4	P	16+ yrs. in front seat	25	X
Minnesota	92.4	P	7 and younger and more than 57 inches tall in all seats; 8+ yrs. in all seats	25	

(table continues)

State Seatbelt Use Laws (Cont'd)

State	2018 usage rate	Primary/secondary enforcement[1]	Age requirements	Maximum fine, first offense	Damages reduced[2]
Mississippi	80.2%	P	7+ yrs. in all seats	$25	
Missouri	87.1	S[5]	16+ yrs. in front seat	10	X
Montana	86.6	S	6+ yrs. in all seats	20	
Nebraska	85.5	S	18+ yrs. in front seat	25	X
Nevada	91.9	S	6+ yrs. in all seats	25	
New Hampshire	76.4	No law for adults			
New Jersey	94.5	P[3]	7 and younger and more than 57 inches tall in all seats; 8+ yrs. in all seats	20	X
New Mexico	90.2	P	18+ yrs. in all seats	25	
New York	92.9	P	16+ yrs. in front seat	50	X
North Carolina	91.3	P[3]	16+ yrs. in all seats	25	
North Dakota	82.5	S	18+ yrs. in front seat	20	X
Ohio	84.9	S	8-14 yrs. in all seats; 15+ yrs. in front seat	30 driver/ 20 passenger	X
Oklahoma	85.6	P	9+ yrs. in front seat	20	
Oregon	95.8	P	16+ yrs. in all seats	115	X
Pennsylvania	88.5	S[5]	18+ yrs. in front seat	10	
Rhode Island	88.8	P	18+ yrs. in all seats	40	
South Carolina	89.7	P	8+ yrs. in all seats	25	
South Dakota	78.9	S	18+ yrs. in front seat	20	
Tennessee	90.9	P	16+ yrs. in front seat	30	
Texas	91.3	P	7 and younger and more than 57 inches tall in all seats; 8+ yrs. in all seats	200	
Utah	89.0	P	16+ yrs. in all seats	45	
Vermont	89.8	S	18+ yrs. in all seats	25	
Virginia	84.1	S	18+ yrs. in front seat	25	
Washington	93.2	P	16+ yrs. in all seats	124	
West Virginia	90.5	P	8+ yrs. in front seat; 8-15 yrs. in all seats	25	X
Wisconsin	89.3	P	8+ yrs. in all seats	10	X
Wyoming	86.3	S	9+ yrs. in all seats	25 driver/ 10 passenger	
United States	**89.6%**				

[1]Primary enforcement means police may stop a vehicle and issue a fine for noncompliance with seatbelt laws. Secondary enforcement means that police may issue a fine for not wearing a seatbelt only if the vehicle has been stopped for other traffic violations. [2]Court awards for compensation for injury may be reduced if seatbelt laws were violated. [3]Secondary for rear seat occupants, ages vary. [4]Drivers fined additional $25 for themselves and for every unrestrained passenger age 12 to under 16 years old. [5]Primary enforcement for children; ages vary.

Source: U.S. Department of Transportation, National Highway Traffic Safety Administration (NHTSA); Insurance Institute for Highway Safety.

Impaired Driving Laws

IIn 2018, 10,511 people died in the United States in alcohol-impaired crashes, down 3.6 percent from 10,908 in 2017, according to the National Highway Traffic Safety Administration (NHTSA). In 2018 alcohol-impaired crash fatalities accounted for 29 percent of all crash fatalities, the same proportion as in 2016 and 2017. NHTSA notes that this percentage is the lowest since 1982, when the Administration began recording alcohol data. Despite this improvement, the Insurance Institute for Highway safety says that progress on alcohol-impaired driving has stalled, citing the fact that more than a quarter of all drivers who die in crashes in the United States have blood alcohol concentrations of 0.08 grams per deciliter or higher. More than 7,000 deaths could have been prevented in 2016 if all drivers were below the legal limit. Enforcement of existing laws and enacting laws such as mandating ignition interlocks and administrative license suspension are the most effective measures against impaired driving.

State Laws Curbing Alcohol-Impaired Driving

State	Interlocks[1] required					ALS[2] mandatory 90-day license suspension[3]	Open container law[4]
	To drive during ALS[2] (first offense)	To drive during post-conviction license suspension		To reinstate license after conviction			
		First offender	Repeat offender	First offender	Repeat offender		
Alabama	[5]	X	X		X	X	X
Alaska	X	X	X	X	X	X	
Arizona			X	X	X	X	X
Arkansas	X	X	X			X	X
California		X[6]	X	X[6]	X[6]	X	X
Colorado	X	X	X		X	X	X
Connecticut	[5]	[5]	[5]	X	X	X	
Delaware	[5]	X	X	X	X	X	
D.C.		X	X				X
Florida		[7]	X	[7]	X	X	X
Georgia			X		X	X	X
Hawaii	X	X	X	X	X	X	X
Idaho			[5]	X	X	X	X
Illinois	X		X		X	X	X
Indiana						X	X
Iowa	X	X	X		X	X	X
Kansas	[5]	[5]	X	X	X		X
Kentucky	[8]	X	X				X
Louisiana		X	X				
Maine			X			X	X
Maryland		X	X	X	X	X	X
Massachusetts	[5]		X		X	X	X

(table continues)

State Laws Curbing Alcohol-Impaired Driving (Cont'd)

State	Interlocks[1] required					ALS[2] mandatory 90-day license suspension[3]	Open container law[4]
	To drive during ALS[2] (first offense)	To drive during post-conviction license suspension		To reinstate license after conviction			
		First offender	Repeat offender	First offender	Repeat offender		
Michigan	[8]		X		X		X
Minnesota	[7]	[7]	X			X	X
Mississippi	X	X	X			X	
Missouri			X		X	X	
Montana	[8]					X	X
Nebraska	X	X	X	X	X	X	X
Nevada	X	X	X	X	X	X	X
New Hampshire	[5]	X	[5]		X	X	X
New Jersey	[8]		X	X	X		X
New Mexico	X	X	X	X	X	X	X
New York	[8]	X	X	X	X		X
North Carolina		[7]	[5]	[7]	X		X
North Dakota						X	X
Ohio			X			X	X
Oklahoma	X	X	X		X	X	X
Oregon		X	X	X	X	X	X
Pennsylvania	[8]	[7]	X	[7]	X		X
Rhode Island	[8]	X	X		X		X
South Carolina	[8]	[7]	[5]	[7]	X		X
South Dakota	[8]						X
Tennessee	[8]	X	X		X	X	X
Texas		X	X		X	X	X
Utah		[5]	[5]	X	X	X	X
Vermont	X	X	X			X	X
Virginia	[5]	X	X		X		
Washington	X	X	X	X	X	X	X
West Virginia	X	X	X		X	X	X
Wisconsin						X	X
Wyoming			X	[7]	X	X	

[1]Ignition interlock devices analyze a driver's breath for alcohol and disable the ignition if a driver has been drinking. States identified mandate the devices on offenders' vehicles. [2]Administrative license suspension, on-the-spot drivers license suspension or revocation if blood alcohol concentration (BAC) is over the legal limit or the driver refuses to take a BAC test. [3]Mandatory penalty for violation of the implied consent law, which means that drivers who refuse to take a breath alcohol test when stopped or are arrested for alcohol-impaired driving or if BAC is over the legal limit will have their license revoked or suspended. [4]Prohibits unsealed alcohol containers and alcohol consumption in motor vehicle passenger compartments for all occupants. Counts only laws meeting federal requirements. [5]No option for driving during suspension. [6]In four counties. [7]State does not require interlocks except under certain conditions; see IIHS website. [8]State has no administrative license suspension for first test failure.

Source: Insurance Institute for Highway Safety; Governors Highway Safety Association.

Alcohol Server Liability Laws

Most states have enacted liquor liability laws which hold businesses and/or people who serve liquor liable for the damage a drunk driver causes. Forty-two states and the District of Columbia have laws or case law (law that comes about through a court ruling rather than an act of the legislature) that hold commercial servers of alcohol liable for the harm caused by their intoxicated patrons. Some of the laws have limitations. Thirty-eight states have enacted laws or have case law that permit social hosts who serve liquor to people who subsequently are involved in crashes to be held liable for any injury or death. These laws may have limited application, for example, many laws specify that the drinker must be obviously intoxicated. In some cases, the laws are only targeted at minors.

Statutes Or Court Cases Holding Alcoholic Beverage Servers Liable

	Commercial servers		Social hosts	
State	Statute[1]	Court[2]	Statute[3]	Court
Alabama	X		X	X
Alaska	X		X	
Arizona	X	X	X	X
Arkansas	X	X		
California	X		X	
Colorado	X	X	X	
Connecticut	X	X		X[4, 5]
Delaware				
D.C.		X[4]		
Florida	X		X	X
Georgia	X		X	
Hawaii		X	X	
Idaho	X	X	X	
Illinois	X		X	X
Indiana	X	X	X	X
Iowa	X	X	X	X[4]
Kansas				
Kentucky	X	X		X[4]
Louisiana	X	X	X	X
Maine	X		X	
Maryland				
Massachusetts	X	X	X	X
Michigan	X		X	X[4]
Minnesota	X		X	X
Mississippi	X	X	X	X
Missouri	X			

	Commercial servers		Social hosts	
State	Statute[1]	Court[2]	Statute[3]	Court
Montana	X	X	X	
Nebraska			X	
Nevada			X[4]	
New Hampshire	X		X	X
New Jersey	X		X	X
New Mexico	X		X	X
New York	X		X	
North Carolina	X	X	X	X[4]
North Dakota	X		X	
Ohio	X	X	X	X[4]
Oklahoma		X		
Oregon	X	X	X	
Pennsylvania	X	X		X[4]
Rhode Island	X			
South Carolina	X	X	X	X[4]
South Dakota				
Tennessee	X			
Texas	X	X	X	X
Utah	X		X	X
Vermont	X		X	X
Virginia				
Washington	X	X	X	X[4]
West Virginia	X	X[4]		
Wisconsin	X	X	X	X
Wyoming	X		X	X[4]

[1]Indicates some form of liability is permitted by statute. [2]States where common-law liability has not been specifically overruled by statute or where common-law actions are specifically recognized in addition to statutory liability. [3]Indicates that language is capable of being read broadly enough to include noncommercial servers. [4]For guests under the age of 21. [5]Only if host either purveyed or supplied alcohol.

Source: American Property Casualty Insurers Association.

Older Drivers

In 2017 more than 16 percent of the total U.S. resident population (50.9 million people) were 65 years old and older. In 2017, 6,784 people age 65 and older were killed in traffic crashes, accounting for 18 percent of all traffic fatalities that year. Recognizing the need for older drivers to retain their mobility and independence, some states issue restricted licenses. Depending on ability, older drivers may be limited to driving during daylight hours or on non-freeway types of roads. In most states restrictions such as these can be placed on anyone's drivers license regardless of age, if his or her medical condition warrants it.

State Drivers License Renewal Laws Including Requirements For Older Drivers

State	Length of regular renewal cycle (years)	Renewal for older drivers		Proof of adequate vision required at renewal[1]	Age limits on mail or online renewal
		Length (years)	Age	Older drivers, age	
Alabama	4				
Alaska	5			69	69
Arizona	12	5	65		[2]
Arkansas	8	4 or 8, personal option	70		[2]
California[3]	5			70	70
Colorado	5				66
Connecticut	8	2	65		[2]
Delaware	8				[2]
D.C.	8				70
Florida	8	6	80	80	
Georgia	8				64
Hawaii	8	2	72		
Idaho	4 or 8, personal option	4	63		70
Illinois	4	2	81[4]	75	75
Indiana	6	3	75[4]	75	
Iowa	8	2	72	70	70
Kansas	6	4	65		[2]
Kentucky	8				[2]
Louisiana	6			70	70
Maine	6	4	65	40 and 62	62
Maryland	8			40	
Massachusetts	5			75	75
Michigan	4				
Minnesota	4				[2]

(table continues)

State Drivers License Renewal Laws Including Requirements For Older Drivers (Cont'd)

State	Length of regular renewal cycle (years)	Renewal for older drivers		Proof of adequate vision required at renewal[1]	Age limits on mail or online renewal
		Length (years)	Age	Older drivers, age	
Mississippi	4 or 8, personal option				
Missouri	6	3	70		[2]
Montana	8	4	75		
Nebraska	5			72	72
Nevada	8	4	65	71	65
New Hampshire	5				
New Jersey	4	2 or 4, personal option	70		
New Mexico	4 or 8, personal option	4	71[4]	75	75
New York	8				
North Carolina	8	5	66		
North Dakota	6	4	78		65
Ohio	4				[2]
Oklahoma	4				[2]
Oregon	8			50	[2]
Pennsylvania	4	2 or 4, personal option	65		
Rhode Island	5	2	75		
South Carolina	8				
South Dakota	5			65	
Tennessee	8				
Texas	6	2	85	79	79
Utah	8			65	
Vermont	2 or 4				
Virginia	8	5	75	75	75
Washington	6				70
West Virginia	8				
Wisconsin	8				
Wyoming	4				[2]

[1]States noted in this column require proof of adequate vision for older drivers at the age shown at every renewal. Most states require all drivers to show proof at every renewal or every in-person renewal. Eight states (Alabama, Connecticut, Kentucky, Mississippi, Oklahoma, Pennsylvania, Tennessee and Vermont) do not require drivers to show proof of adequate vision at any age. [2]Online or mail renewal not permitted for all drivers. [3]Specifically requires doctors to report a diagnosis of dementia. [4]These states have special renewal requirements for other age groups: Illinois (1 year for drivers 87 and older); Indiana (2 years for drivers 85 and older); and New Mexico (1 year for drivers 79 and older).

Note: Specific requirements vary by state; contact state departments of motor vehicles for more information.

Source: Insurance Institute for Highway Safety; Governors Highway Safety Association.

State Young Driver Laws[1]

State	Graduated licensing			Driver may not operate a cellphone in learner and/or intermediate stages[4]
	Learners permit required for a minimum period	Intermediate phase		
		Restrictions on night driving[2]	Passenger restrictions[3]	
Alabama	6 months	X	X	Talk
Alaska	6 months	X	X	
Arizona	6 months	X	X	
Arkansas	6 months	X	X	Talk
California	6 months	X	X	Talk
Colorado	12 months	X	X	Talk
Connecticut	6 months	X	X	Talk
Delaware	6 months	X	X	Talk
D.C.	6 months	X	X	Talk
Florida	12 months	X		
Georgia	12 months	X	X	Talk
Hawaii	6 months	X	X	Talk
Idaho	6 months	X	X	
Illinois	9 months	X	X	Talk
Indiana	6 months	X	X	Talk
Iowa	12 months	X		Talk
Kansas	12 months	X	X	Talk
Kentucky	6 months	X	X	Talk
Louisiana	6 months	X	X	Talk
Maine	6 months	X	X	Talk
Maryland	9 months	X	X	Talk
Massachusetts	6 months	X	X	Talk
Michigan	6 months	X	X	Talk
Minnesota	6 months	X	X	Talk
Mississippi	12 months	X		
Missouri	6 months	X	X	Text
Montana	6 months	X	X	
Nebraska	6 months	X	X	Talk
Nevada	6 months	X	X	
New Hampshire	none[5]	X	X	Talk

(table continues)

State Young Driver Laws[1] (Cont'd)

State	Graduated licensing			Driver may not operate a cellphone in learner and/or intermediate stages[4]
	Learners permit required for a minimum period	Intermediate phase		
		Restrictions on night driving[2]	Passenger restrictions[3]	
New Jersey	6 months	X	X	Talk
New Mexico	6 months	X	X	Talk
New York	6 months	X	X	
North Carolina	12 months	X	X	Talk
North Dakota	6-12 months[6]	X		Talk
Ohio	6 months	X	X	Talk
Oklahoma	6 months	X	X	Talk[7]
Oregon	6 months	X	X	Talk
Pennsylvania	6 months	X	X	
Rhode Island	6 months	X	X	Talk
South Carolina	6 months	X	X	
South Dakota	6 months	X		Talk
Tennessee	6 months	X	X	Talk
Texas	6 months	X	X	Talk
Utah	6 months	X	X	Talk
Vermont	12 months		X	Talk
Virginia	9 months	X	X	Talk
Washington	6 months	X	X	Talk
West Virginia	6 months	X	X	Talk
Wisconsin	6 months	X	X	Talk
Wyoming	10 days	X	X	

[1]Designed to aid young novice drivers between the ages of 15 and 18 gain driving experience. To date they apply only to drivers under the age of 18. All states have lower blood alcohol content laws for drivers under 21, which range from none to 0.02 grams per deciliter, in contrast with 0.08 grams per deciliter for drivers over the age of 21 in most states. Includes graduated licensing as defined by the National Highway Traffic Safety Administration. Every state has a graduated licensing law. [2]Intermediate stage; varies by state with regard to age of driver, night hours that driving is restricted, who must accompany driver during night hours and how long and what stage the restrictions are lifted. Exceptions may be made for work, school or religious activities and emergencies. [3]Intermediate stage; limits the number of teenage passengers a young driver may have in the vehicle. [4]Only includes states with restrictions on the use of cellphones for talking or texting by young drivers. Does not reference cellphone laws such as bans on handheld cellphones that apply to all drivers in some states. [5]New Hampshire does not issue learners permits. [6]Under age 16: 12 months; 16-18: 6 months. [7]Banned for non-life threatening purposes.

Source: Insurance Institute for Highway Safety.

HOMEOWNERS: PREMIUMS

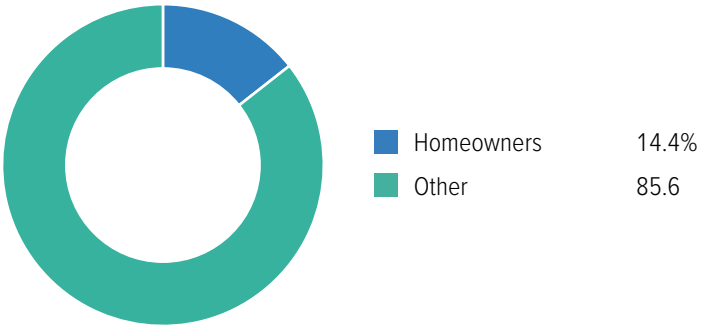
Homeowners Insurance

Homeowners insurance accounted for 14.4 percent of all property/casualty (P/C) insurance premiums, and 27.0 percent of personal P/C lines insurance premiums in 2018.

According to the Insurance Information Institute, the vast majority (93 percent) of homeowners have basic homeowners insurance, as it is generally a requirement of mortgage lenders. Homeowners insurance is a package policy, providing both property and personal liability insurance. The typical policy covers a house, garage and other structures on the property—as well as personal property inside the house—against a wide variety of perils, such as fire, windstorm, vandalism and accidental water damage. The typical homeowners policy includes theft coverage on personal property anywhere in the world and liability coverage for accidental harm caused to others. It also reimburses the policyholder for the additional cost of living elsewhere while a house is being repaired or rebuilt after a disaster.

Earthquake damage and flood damage caused by external flooding are not covered by standard homeowners policies, however special policies can be purchased separately. Flood coverage is provided by the federal government's National Flood Insurance Program and some private insurers.

Homeowners Premiums As A Percent Of All P/C Premiums, 2018



Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Homeowners Multiple Peril Insurance, 2009-2018 ($000)

Year	Net premiums written[1]	Annual percent change	Combined ratio[2]	Annual point change[3]
2009	$58,478,195	1.9%	105.7	-9.7 pts.
2010	61,659,466	5.4	106.0	0.3
2011	64,131,058	4.0	121.0	15.0
2012	67,847,033	5.8	103.0	-18.1
2013	72,773,216	7.3	89.6	-13.4
2014	77,914,406	7.1	91.5	2.0
2015	79,931,345	2.6	91.3	-0.3
2016	81,191,458	1.6	93.1	1.9
2017	82,811,254	2.0	108.1	15.0
2018	88,920,774	7.4	103.0	-5.1

[1]After reinsurance transactions, excludes state funds. [2]After dividends to policyholders. A drop in the combined ratio represents an improvement; an increase represents a deterioration. [3]Calculated from unrounded numbers.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute

Top 10 Writers Of Homeowners Insurance By Direct Premiums Written, 2018 ($000)

Rank	Group/company	Direct premiums written[1]	Market share[2]
1	State Farm Mutual Automobile Insurance	$18,170,243	18.4%
2	Allstate Corp.	8,262,445	8.4
3	Liberty Mutual	6,655,452	6.7
4	USAA Insurance Group	6,170,558	6.2
5	Farmers Insurance Group of Companies	5,795,044	5.9
6	Travelers Companies Inc.	3,766,277	3.8
7	American Family Insurance Group	3,399,406	3.4
8	Nationwide Mutual Group	3,184,627	3.2
9	Chubb Ltd.	2,832,082	2.9
10	Erie Insurance Group	1,675,976	1.7

[1]Before reinsurance transactions, includes state funds. [2]Based on U.S. total, includes territories.
Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

HOMEOWNERS: HIGH-RISK MARKETS

In 2017, 94.7 million people, or almost one-third of the total U.S. population, lived in coastal counties along the Atlantic and Pacific Coasts and the Gulf of Mexico, according to the U.S. Bureau of the Census. The U.S. coastal county population grew 15.3 percent from 2000 to 2017. The Atlantic region was the most populated of the three coastal regions, with 129 counties where 44.4 million people lived, and accounted for 13.6 percent of the total U.S. population. The Pacific region was the second most populous, with 70 counties, 34.4 million people and 10.6 percent of the U.S. population. The counties along the Gulf of Mexico was the smallest coastal region, with 56 counties, 15.8 million people and 4.9 percent of U.S. population.

Counties along the Gulf of Mexico grew the fastest between 2000 and 2017, where the population grew 26.1 percent, compared with 15.7 percent for the total United States. One of the Gulf counties, Harris County, Texas, had the fastest population growth of any county in the United States. In counties along the Pacific Coast, population grew 13.5 percent and in counties along the Atlantic Coast, population grew 13.2 percent. Noncoastline county population grew at about the same rate as the total United States, at 15.9 percent.

U.S. Population By Coastline Region, 2017

Region	Number of counties	Population		
		Number (millions)	Percent of total U.S.	Percent change, 2000-2017
Atlantic	129	44.4	13.6%	13.2%
Pacific[1]	70	34.4	10.6	13.5
Gulf of Mexico	56	15.8	4.9	26.1
Total coastline	255	94.7	29.1	15.3
Noncoastline	2,887	231.1	70.9	15.9
Total United States	**3,142**	**325.7**	**100.0%**	**15.7%**

[1]Includes Alaska and Hawaii.
Source: U.S. Census Bureau, V.2017 Population Estimates and 2000 to 2010 Intercensal Estimates.

Atlantic And Gulf Of Mexico Coastline County Population, 2000-2017

Year	Population (millions)	Year	Population (millions)
2000	51.9	2009	55.9
2001	52.5	2010	56.4
2002	53.0	2011	57.0
2003	53.5	2012	57.6
2004	54.0	2013	58.1
2005	54.5	2014	58.7
2006	54.5	2015	59.3
2007	54.9	2016	59.8
2008	55.4	2017	60.2

Source: U.S. Census Bureau, V.2017 Population Estimates and 2000 to 2010 Intercensal Estimates.

Coastal State Storm Surge Risk

According to CoreLogic, storm surge is ocean water that is pushed ahead of a storm and can cause severe damage. States along the U.S. Gulf of Mexico and Atlantic Basin are potentially vulnerable to storm surge damage. The latest CoreLogic report shows that in 2019, there were 7.3 million coastal homes along the Gulf and Atlantic Coasts, worth almost $1.8 trillion, at risk for storm surge damage. Along the Gulf Coast, 3.1 million homes are at risk from storm surge, and another 4.1 million homes along the Atlantic Coast are at risk. The reconstruction cost value of homes at risk for storm surge damage is $668 billion along the Gulf of Mexico in the United States and $1.1 trillion along the highly populated Atlantic Coast. The reconstruction cost is based on the 100 percent destruction of the residential structure, using a combined cost of construction materials, equipment and labor costs by geographic location.

The data shown in the following charts are cumulative. A home potentially affected by a Category 1 storm would also be affected by Category 2 to 5 storms. Thus, Category 5 represents the aggregate total risk from Category 1 to 5 storms.

U.S. Storm Surge Risk, Gulf and Atlantic States, 2019

Storm surge risk level[1] (Storm category)	Single-family residential homes at risk		Multi-family residential homes at risk	
	Number of units	Reconstruction cost value[2] ($ millions)	Number of units	Reconstruction cost value[2] ($ millions)
Category 1	815,559	$197,609.5	23,804	$7,962.0
Category 2	2,546,272	632,257.0	84,631	30,989.6
Category 3	4,633,815	1,138,183.1	161,027	59,089.1
Category 4	6,158,577	1,511,320.6	229,411	87,379.2
Category 5	7,071,745	1,701,112.2	246,033	91,892.8

[1]The risk categories are cumulative and increase in value from Category 1 to Category 5. Category 1 represents the higher risk of damage from a weak hurricane; Category 5 includes Categories 1 to 4 and the low risk of damage from a Category 5 hurricane.
[2]Represents the cost to completely rebuild including labor and materials by geographic location.

Source: CoreLogic®, a property data and analytics company.

The Atlantic and Gulf of Mexico Coasts are vulnerable to damage from tropical storms and hurricanes.

According to the National Climatic Data Center, between 2000 and 2017, hurricanes costing $10 billion or more in total losses occurred in seven of those 18 years: 2004 (Hurricanes Charley, Frances, Ivan and Jeanne), 2005 (Katrina, Rita and Wilma), 2008 (Ike), 2011 (Irene), 2012 (Sandy), 2016 (Matthew) and 2017 (Harvey and Irma).

Hurricane Maria, which caused an estimated $91.8 billion in total losses in Puerto Rico and the U.S. Virgin Islands, was not included in the tally above because it did not occur in the continental U.S.

Storm Surge Risk By State By Number Of Single-Family Homes and Reconstruction Value, 2019[1]

Rank	State	Number of single-family homes at risk by storm category[2]				
		Category 1	Category 2	Category 3	Category 4	Category 5
1	Florida	358,902	1,085,288	1,788,071	2,338,348	2,830,201
2	Louisiana	74,792	213,442	637,354	765,612	839,321
3	Texas	40,633	121,010	259,993	393,837	555,569
4	New Jersey	94,083	276,872	381,551	471,143	[3]
5	New York	76,797	227,962	351,783	467,398	[3]
6	Virginia	23,321	89,387	243,401	365,134	409,259
7	South Carolina	37,155	130,565	216,551	304,442	359,024
8	North Carolina	33,200	97,158	163,632	213,922	264,264
9	Massachusetts	9,310	45,042	101,171	157,311	[3]
10	Georgia	9,863	54,777	112,747	151,627	163,191
11	Maryland	16,473	58,141	96,774	124,684	[3]
12	Mississippi	9,005	29,381	60,167	90,360	102,199
13	Pennsylvania	924	21,406	58,659	85,480	[3]
14	Connecticut	6,874	29,194	47,292	68,022	[3]
15	Alabama	5,777	15,596	29,234	41,164	54,586
16	Delaware	11,027	31,329	49,517	67,320	[3]
17	Rhode Island	1,391	7,423	16,513	25,354	[3]
18	Maine	5,846	8,300	12,336	18,824	[3]
19	New Hampshire	186	3,999	7,069	9,315	[3]
	Total homes potentially affected	**815,559**	**2,546,272**	**4,633,815**	**6,158,577**	**7,071,745**
Rank	**State**	**Reconstruction cost value of single-family homes at risk[4] ($ millions)**				
		Category 1	**Category 2**	**Category 3**	**Category 4**	**Category 5**
1	Florida	$73,255.3	$225,758.2	$372,102.5	$482,986.8	$581,641.5
2	New York	30,075.0	94,513.9	145,839.3	194,358.1	[3]
3	Louisiana	16,343.1	47,945.9	151,667.9	182,479.3	200,785.2
4	New Jersey	27,035.0	84,599.0	119,106.5	149,676.0	[3]
5	Texas	7,399.5	22,434.1	50,758.8	80,141.0	112,087.7
6	Virginia	6,046.8	22,878.8	58,270.3	87,017.7	98,744.9
7	South Carolina	10,377.6	34,543.8	54,837.2	74,049.4	85,214.8
8	North Carolina	7,094.4	20,928.6	35,570.1	46,843.7	57,973.4
9	Massachusetts	2,381.6	12,625.7	28,897.8	46,442.6	[3]
10	Georgia	2,980.9	14,662.9	27,079.1	35,130.6	37,325.4

(table continues)

Storm Surge Risk By State By Number Of Single-Family Homes and Reconstruction Value, 2019[1] (Cont'd)

Rank	State	Reconstruction cost value of single-family homes at risk[4] ($ millions)				
		Category 1	Category 2	Category 3	Category 4	Category 5
11	Maryland	$4,046.8	$13,834.2	$23,084.4	$29,768.4	[3]
12	Connecticut	2,429.5	9,913.0	15,895.6	22,659.2	[3]
13	Mississippi	1,947.1	6,186.9	12,375.8	18,241.7	$20,554.7
14	Pennsylvania	214.4	5,013.7	14,187.6	20,823.0	[3]
15	Delaware	3,159.6	8,797.1	14,026.2	19,121.3	[3]
16	Alabama	1,143.4	2,917.3	5,387.9	7,534.0	9,888.1
17	Rhode Island	351.3	2,039.2	4,669.2	7,321.1	[3]
18	Maine	1,294.4	1,970.7	3,031.9	4,738.2	[3]
19	New Hampshire	33.9	693.9	1,395.2	1,988.6	[3]
	Total homes potentially affected	**$197,609.5**	**$632,257.0**	**$1,138,183.1**	**$1,511,320.6**	**$1,701,112.2**

[1]The risk categories are cumulative and increase in value from Category 1 to Category 5. Category 1 represents the higher risk of damage from a weak hurricane; Category 5 includes Categories 1 to 4 and the low risk of damage from a Category 5 hurricane. [2]Measured in units. [3]Storm surge risk for Category 5 storms for homes on the northeastern Atlantic Coast is not shown due to the extremely low probability of a Category 5 storm affecting these areas. [4]Represents the cost to completely rebuild including labor and materials by geographic location.

Source: CoreLogic®, a property data and analytics company.

Storm Surge Risk By State By Number Of Multi-Family Homes and Reconstruction Value, 2019[1]

Rank	State	Number of multi-family homes at risk by storm category[2]				
		Category 1	Category 2	Category 3	Category 4	Category 5
1	Florida	10,700	31,970	54,403	70,554	836,685
2	Louisiana	289	1,015	7,223	7,518	7,711
3	Texas	159	1,377	2,599	3,461	5,566
4	New Jersey	721	2,303	3,549	4,428	[3]
5	New York	9,154	34,809	64,778	97,497	[3]
6	Virginia	221	944	2,850	4,474	4,613
7	South Carolina	106	641	1,041	1,500	1,789
8	North Carolina	556	2,032	2,966	3,275	3,523
9	Massachusetts	1,041	5,199	11,399	19,379	[3]
10	Georgia	63	443	1,369	2,511	2,853
11	Maryland	476	1,233	1,848	2,589	[3]
12	Mississippi	34	163	400	729	849
13	Pennsylvania	1	1,078	3,242	5,377	[3]
14	Connecticut	83	522	1,475	2,944	[3]
15	Alabama	4	16	72	114	169

(table continues)

Storm Surge Risk By State By Number Of Multi-Family Homes and Reconstruction Value, 2019[1] (Cont'd)

Rank	State	Number of multi-family homes at risk by storm category[2]				
		Category 1	Category 2	Category 3	Category 4	Category 5
16	Delaware	5	31	64	146	[3]
17	Rhode Island	35	181	425	646	[3]
18	Maine	155	590	1,192	2,090	[3]
19	New Hampshire	1	84	132	179	[3]
	Total homes potentially affected	**23,804**	**84,631**	**161,027**	**229,411**	**246,033**
Rank	**State**	**Reconstruction cost value of multi-family homes at risk[4] ($ millions)**				
		Category 1	**Category 2**	**Category 3**	**Category 4**	**Category 5**
1	Florida	$2,832.9	$8,256.7	$14,022.5	$18,429.0	$21,889.7
2	New York	3,982.3	16,571.0	30,092.3	46,171.4	[3]
3	Louisiana	61.4	221.1	1,973.0	2,036.4	2,080.2
4	New Jersey	293.6	1,032.6	1,634.4	2,077.2	[3]
5	Texas	42.6	360.6	686.5	928.9	1,577.5
6	Virginia	77.5	284.4	966.4	1,364.2	1,405.5
7	South Carolina	38.7	198.6	317.0	453.7	531.1
8	North Carolina	90.9	337.3	535.1	623.1	690.6
9	Massachusetts	243.1	2,166.7	5,023.0	8,579.7	[3]
10	Georgia	21.3	126.7	434.0	802.7	917.5
11	Maryland	142.0	411.5	578.2	755.5	[3]
12	Connecticut	51.8	297.3	851.4	1,709.6	[3]
13	Mississippi	12.1	54.8	132.4	255.3	297.2
14	Pennsylvania	0.3	350.0	1,167.2	2,060.8	[3]
15	Delaware	1.1	11.9	25.5	53.3	[3]
16	Alabama	16.4	6.3	24.6	43.2	60.7
17	Rhode Island	16.4	87.4	210.2	318.0	[3]
18	Maine	52.5	183.0	365.7	645.5	[3]
19	New Hampshire	0.3	31.6	49.8	71.8	[3]
	Total homes potentially affected	**$7,962.0**	**$30,989.6**	**$59,089.1**	**$87,379.2**	**$91,892.8**

[1]The risk categories are cumulative and increase in value from Category 1 to Category 5. Category 1 represents the higher risk of damage from a weak hurricane; Category 5 includes Categories 1 to 4 and the low risk of damage from a Category 5 hurricane. [2]Measured in units. [3]Storm surge risk for Category 5 storms for homes on the northeastern Atlantic Coast is not shown due to the extremely low probability of a Category 5 storm affecting these areas. [4]Represents the cost to completely rebuild including labor and materials by geographic location.

Source: CoreLogic®, a property data and analytics company.

Top 15 Metropolitan Areas By Storm Surge Risk, 2019[1]

Rank[2]	Metropolitan area	Number of single-family homes at risk of storm surge[3]	Reconstruction cost value of single-family homes at risk[4] ($ millions)
1	Miami, FL	791,775	$157,644.7
2	New York, NY	731,137	283,259.6
3	Tampa, FL	465,644	84,105.7
4	New Orleans, LA	399,403	100,885.7
5	Virginia Beach, VA	391,365	94,788.7
6	Fort Myers, FL	329,479	67,566.1
7	Houston, TX	294,188	63,808.4
8	Bradenton, FL	262,745	53,758.2
9	Naples, FL	187,205	42,188.0
10	Jacksonville, FL	176,809	41,085.7
11	Philadelphia, PA	166,444	43,298.8
12	Charleston, SC	155,740	40,866.1
13	Myrtle Beach, SC	131,083	24,380.4
14	Boston, MA	126,196	34,922.3
15	Beaumont, TX	121,710	22,075.2
	Total, 15 metropolitan areas	**4,730,923**	**$1,154,644.7**
Rank[2]	**Metropolitan area**	**Number of multi-family homes at risk of storm surge[3]**	**Reconstruction cost value of multi-family homes at risk[4] ($ millions)**
1	New York, NY	100,576	$47,674.7
2	Miami, FL	35,982	9,185.3
3	Boston, MA	18,066	7,785.7
4	Fort Myers, FL	13,564	3,322.4
5	Tampa, FL	12,103	3,340.5
6	Philadelphia, PA	6,281	2,415.2
7	New Orleans, LA	5,962	1,700.1
8	Naples, FL	4,035	829.6
9	Jacksonville, FL	4,011	1,306.0
10	Virginia Beach, VA	3,869	1,310.4
11	Bradenton, FL	3,252	891.9
12	Houston, TX	2,631	732.2
13	Charleston, SC	1,032	303.2
14	Beaumont, TX	701	169.4
15	Myrtle Beach, SC	637	184.6
	Total, 15 metropolitan areas	**212,702**	**$81,151.1**

[1]Includes homes at risk from extreme to low storm surge. [2]Ranked by number of homes at risk from extreme to low storm surge. [3]Measured in units. [4]Represents the cost to completely rebuild including labor and materials by geographic location.

Source: CoreLogic®, a property data and analytics company.

Residual Market Property Plans

A myriad of different programs in place across the United States provide insurance to owners of property in high-risk areas who may have difficulty obtaining coverage from the standard market. Residual, shared or involuntary market programs make basic insurance coverage more readily available. Today, property insurance for the residual market is provided by Fair Access to Insurance Requirements (FAIR) plans, beach and windstorm plans, and two state-run insurance companies in Florida and Louisiana: Florida's Citizens Property Insurance Corp. and Louisiana's Citizens Property Insurance Corp. Established in the late 1960s to ensure the continued provision of insurance in urban areas, FAIR plans often provide property insurance in both urban and coastal areas. Beach and windstorm plans cover predominantly wind-only risks in designated coastal areas. Over the past four decades FAIR and beach and windstorm plans experienced explosive growth both in the number of policies and in exposure value. However, the number of policies in FAIR plans peaked in 2011 and has been falling steadily. The total number of policies fell 49.7 percent from 2011 to 2018, while exposure dropped by 54.6 percent.

Insurance Provided By FAIR Plans, Fiscal Years 2009-2018[1]

Year	Number of policies			Exposure[2] ($000)	Direct premiums written ($000)
	Habitational	Commercial	Total		
2009	2,043,969	86,575	2,130,544	$614,905,551	$3,038,712
2010	2,378,736	83,243	2,461,979	662,633,180	3,448,576
2011	2,658,662	51,657	2,710,319	715,289,876	3,942,021
2012	2,518,808	71,776	2,590,584	635,705,150	4,059,446
2013	2,484,816	64,359	2,549,175	445,635,335	3,685,283
2014	2,015,536	61,285	2,076,821	424,732,706	3,029,772
2015	1,728,423	51,443	1,779,866	373,829,442	2,198,182
2016	1,498,430	37,522	1,535,952	343,141,990	1,865,744
2017	1,449,312	29,641	1,478,953	327,209,703	1,747,336
2018	1,339,004	24,484	1,363,488	324,765,281	1,694,115

[1]Includes the Texas FAIR Plan; Florida's Citizens Property Insurance Corp., which includes FAIR and beach plans; the Louisiana Citizens Property Insurance Corp., which includes FAIR and beach plans and premiums written after 2007; and North Carolina after 2010. [2]Exposure is the estimate of the aggregate value of all insurance in force in all FAIR Plans in all lines (except liability, where applicable, and crime) for 12 months ending September through December.

Source: Property Insurance Plans Service Office (PIPSO).

Insurance Provided By FAIR Plans By State, Fiscal Year 2018[1]

State	Number of policies			Exposure[2] ($000)	Direct premiums written ($000)
	Habitational	Commercial	Total		
California	119,570	3,980	123,550	$50,341,040	$82,271
Connecticut	1,804	62	1,866	342,145	2,560
Delaware	1,435	61	1,496	265,986	517
D.C.	188	20	208	66,416	200
Florida[3]	452,526	7,475	460,001	108,896,296	868,417
Georgia	1,709	553	2,262	2,391,323	20,805
Illinois	4,390	61	4,451	368,800	4,295
Indiana	1,183	34	1,217	142,000	2,533
Iowa	1,288	22	1,310	77,301	833
Kansas	15,307	160	15,467	970,470	8,384
Kentucky	8,419	357	8,776	471,336	5,039

(table continues)

Insurance Provided By FAIR Plans By State, Fiscal Year 2018[1] (Cont'd)

State	Number of policies			Exposure[2] ($000)	Direct premiums written ($000)
	Habitational	Commercial	Total		
Louisiana[3]	46,171	1,939	48,110	$7,237,392	$66,879
Maryland	1,250	47	1,297	363,040	885
Massachusetts	230,828	225	231,053	87,724,715	307,447
Michigan	18,040	251	18,291	2,340,600	13,124
Minnesota	5,079	37	5,116	223,627	3,547
Mississippi[4]	5,369	0	5,369	303,291	3,719
Missouri	2,488	70	2,558	168,794	1,703
New Jersey	11,911	314	12,225	1,687,616	7,737
New Mexico	10,897	263	11,160	80,651	4,929
New York	34,839	2,185	37,024	9,899,896	31,584
North Carolina	177,002	4,122	181,124	20,180,133	93,813
Ohio	17,309	344	17,653	4,365,000	15,022
Oregon	1,948	56	2,004	259,991	831
Pennsylvania	13,484	1,088	14,572	1,440,383	6,206
Rhode Island	15,524	108	15,632	4,294,556	23,305
Texas[4]	104,165	0	104,165	15,285,508	95,882
Virginia	28,946	497	29,443	4,184,713	18,478
Washington	72	11	83	24,505	130
West Virginia	382	52	434	32,046	273
Wisconsin	5,481	90	5,571	335,711	2,767
Total	**1,339,004**	**24,484**	**1,363,488**	**$324,765,281**	**$1,694,115**

[1]Excludes the FAIR Plans of Arkansas and Hawaii. [2]Exposure is the estimate of the aggregate value of all insurance in force in all FAIR plans in all lines (except liability, where applicable, and crime) for 12 months ending September through December. [3]Citizens Property Insurance Corp., which combined the FAIR and beach plans. [4]The Mississippi and Texas FAIR Plans do not offer a commercial policy.

Source: Property Insurance Plans Service Office (PIPSO).

Insurance Provided By Beach And Windstorm Plans

Beach and windstorm plans ensure that insurance is available against damage from hurricanes and other windstorms. In Georgia, Massachusetts and New York, FAIR plans provide wind and hail coverage for certain coastal communities. These states do not have beach and windstorm plans.

Insurance Provided By Beach And Windstorm Plans, Fiscal Year 2018[1]

State	Number of policies			Exposure[2] ($000)	Direct premiums written ($000)
	Habitational	Commercial	Total		
Alabama	20,910	55	20,965	$5,633,471	$26,471
Mississippi	20,660	236	20,896	3,284,222	35,425
North Carolina	199,392	9,799	209,191	75,011,039	329,955
South Carolina	21,055	341	21,396	6,828,763	41,197
Texas	202,710	9,898	212,608	58,041,760	395,552
Total	**464,727**	**20,329**	**485,056**	**$148,799,255**	**$828,600**

[1]The Florida and Louisiana Beach Plans merged with their FAIR Plans, see chart, Insurance Provided By FAIR Plans By State. [2]Exposure is the estimate of the aggregate value of all insurance in force in each state's beach and windstorm plan in all lines (except liability, where applicable, and crime) for 12 months ending September through December.

Source: Property Insurance Plans Service Office (PIPSO).

HOMEOWNERS: COSTS/EXPENDITURES

The average homeowners insurance premium rose by 1.6 percent in 2017, following a 1.6 percent increase in 2016, according to a November 2019 study by the National Association of Insurance Commissioners, the latest data available. The average renters insurance premium fell 2.7 percent in 2017 after falling 1.6 percent in 2016 and 1.1 percent in 2015.

The Insurance Information Institute's 2018 *Pulse* survey found that 91 percent of homeowners had homeowners insurance, but only 46 percent of renters had renters insurance.

The U.S. homeownership rate fell in the first two quarters of 2019 but grew to 64.8 percent by the third quarter, back to the same level it was at the end of 2018, according to the U.S. Census Bureau. The 2010 Census showed that in some of the largest cities renters outnumbered owners, including New York, where 69.0 percent of households were occupied by renters, followed by Los Angeles (61.8 percent), Chicago (55.1 percent) and Houston (54.6 percent).

Average Premiums For Homeowners And Renters Insurance, 2008-2017

Year	Homeowners[1]	Percent change	Renters[2]	Percent change
2008	$830	1.0%	$182	[3]
2009	880	6.0	184	1.1%
2010	909	3.3	185	0.5
2011	979	7.7	187	1.1
2012	1,034	5.6	187	[3]
2013	1,096	6.0	188	0.5
2014	1,132	3.3	190	1.1
2015	1,173	3.6	188	-1.1
2016	1,192	1.6	185	-1.6
2017	1,211	1.6	180	-2.7

[1]Based on the HO-3 homeowner package policy for owner-occupied dwellings, 1 to 4 family units. Provides all risks coverage (except those specifically excluded in the policy) on buildings and broad named-peril coverage on personal property, and is the most common package written. [2]Based on the HO-4 renters insurance policy for tenants. Includes broad named-peril coverage for the personal property and liability of tenants. [3]Less than 0.1 percent.

Homeowners and Renters Insurance Expenditures, By State

The table below shows average premiums for homeowners and renters insurance by state for 2017. The National Association of Insurance Commissioners (NAIC) collects state and countrywide data for total written premiums and written exposures expressed as house years. One house-year represents coverage for a home or apartment for 12 months. The NAIC calculates average premiums by dividing total written premiums by exposures to represent the cost of a year of coverage.

According to the NAIC, average premiums are affected by many factors: Real estate values; building and construction costs; vulnerability to catastrophes; degree of urbanization; and the legal, regulatory and economic climate. These factors result in wide variations in premiums on regional, state and local levels.

Average Premiums For Homeowners And Renters Insurance By State, 2017[1]

State	Homeowners		Renters	
	Average premium[2]	Rank[3]	Average premium[4]	Rank[3]
Alabama	$1,433	12	$235	3
Alaska	959	37	166	28
Arizona	825	46	178	20
Arkansas	1,373	13	212	7
California[5]	1,008	32	182	17
Colorado	1,495	8	159	33
Connecticut	1,479	11	192	11
Delaware	833	45	159	33
D.C.	1,235	20	158	35
Florida	1,951	2	188	12
Georgia	1,267	18	219	6
Hawaii	1,102	27	185	16
Idaho	730	49	153	39
Illinois	1,056	29	167	27
Indiana	1,000	33	174	23
Iowa	964	36	144	46
Kansas	1,584	5	172	25
Kentucky	1,109	26	168	26
Louisiana	1,968	1	235	3
Maine	882	42	149	42
Maryland	1,037	30	161	32
Massachusetts	1,488	9	194	9
Michigan	942	38	182	18
Minnesota	1,348	14	140	48
Mississippi	1,537	7	258	1
Missouri	1,285	16	173	24
Montana	$1,174	24	$146	45
Nebraska	1,481	10	143	47
Nevada	755	48	178	20
New Hampshire	972	35	149	42
New Jersey	1,192	23	165	29
New Mexico	1,017	31	187	15
New York	1,309	15	194	9
North Carolina	1,086	28	157	37
North Dakota	1,253	19	120	51
Ohio	862	43	175	22
Oklahoma	1,885	4	236	2
Oregon	677	51	163	30
Pennsylvania	931	40	158	35
Rhode Island	1,551	6	182	18
South Carolina	1,269	17	188	12
South Dakota	1,202	21	123	50
Tennessee	1,196	22	199	8
Texas[6]	1,893	3	232	5
Utah	692	50	151	41
Vermont	918	41	155	38
Virginia	999	34	152	40
Washington	854	44	163	30
West Virginia	940	39	188	12
Wisconsin	779	47	134	49
Wyoming	1,156	25	147	44
United States	**$1,211**		**$180**	

[1]Includes state funds, residual markets and some wind pools. [2]Based on the HO-3 homeowner package policy for owner-occupied dwellings, 1 to 4 family units. Provides all risks coverage (except those specifically excluded in the policy) on buildings and broad named-peril coverage on personal property, and is the most common package written. [3]Ranked from highest to lowest. States with the same premium receive the same rank. [4]Based on the HO-4 renters insurance policy for tenants. Includes broad named-peril coverage for the personal property and liability of tenants. [5]Data provided by the California Department of Insurance. [6]The Texas Department of Insurance developed home insurance policy forms that are similar but not identical to the standard forms. In addition, due to the Texas Windstorm Association (which writes wind-only policies) classifying HO-1, 2 and 5 premiums as HO-3, the average premium for homeowners insurance is artificially high.

Note: Average premium=Premiums/exposure per house years. A house year is equal to 365 days of insured coverage for a single dwelling. The NAIC does not rank state average expenditures and does not endorse any conclusions drawn from this data.

Top 10 Most Expensive And Least Expensive States For Homeowners Insurance Premiums, 2017[1]

Rank	Most expensive states	Average expenditure
1	Louisiana	$1,968
2	Florida	1,951
3	Texas[2]	1,893
4	Oklahoma	1,885
5	Kansas	1,584
6	Rhode Island	1,551
7	Mississippi	1,537
8	Colorado	1,495
9	Massachusetts	1,488
10	Nebraska	1,481

Rank	Least expensive states	Average expenditure
1	Oregon	$677
2	Utah	692
3	Idaho	730
4	Nevada	755
5	Wisconsin	779
6	Arizona	825
7	Delaware	833
8	Washington	854
9	Ohio	862
10	Maine	882

[1]Based on the HO-3 homeowner package policy for owner-occupied dwellings, 1 to 4 family units. Provides all risks coverage (except those specifically excluded in the policy) on buildings and broad named-peril coverage on personal property, and is the most common package written. [2]The Texas Department of Insurance developed home insurance policy forms that are similar but not identical to the standard forms. In addition, due to the Texas Windstorm Association (which writes wind-only policies) classifying HO-1, 2 and 5 premiums as HO-3, the average premium for homeowners insurance is artificially high.

Homeowners Insurance Industry Losses and Underwriting Expenses, 2018[1]

Expense	Percent of premiums
Losses and related expenses[2]	
Loss and loss adjustment expense (LAE) ratio	**73.9%**
Incurred losses	65.1
Defense and cost containment expenses incurred	1.7
Adjusting and other expenses incurred	7.1
Operating expenses[3]	
Expense ratio	**28.7%**
Net commissions and brokerage expenses incurred	12.6
Taxes, licenses and fees	2.7
Other acquisition and field supervision expenses incurred	8.2
General expenses incurred	5.3
Dividends to policyholders[2]	**0.5%**
Combined ratio after dividends[4]	**103.0%**

[1]After reinsurance transactions. [2]As a percent of net premiums earned ($86.3 billion in 2018). [3]As a percent of net premiums written ($88.9 billion in 2018). [4]Sum of loss and LAE, expense and dividends ratios.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

HOMEOWNERS: CLAIMS

In 2017, 6 percent of insured homes experienced a claim.

Homeowners insurance losses, net of reinsurance, fell slightly to $56.2 billion in 2018 from $56.5 billion in 2017, according to S&P Global Market Intelligence.

Homeowners Insurance Losses, 2013-2017[1]

Year	Total homeowners losses	
	Claim frequency[2]	Claim severity[3]
2013	4.87	$10,603
2014	5.23	11,274
2015	6.04	11,721
2016	5.12	$12,502
2017	6.26	15,532
Average[4]	**5.51**	**$12,474**

[1]For homeowners multiple peril policies (HO-2, HO-3, HO-5 and HE-7 for North Carolina). Excludes tenants and condominium policies. Excludes Alaska, Texas and Puerto Rico. [2]Claims per 100 house years (policies). [3]Average amount paid per claim; based on accident year incurred losses, excluding loss adjustment expenses, i.e., indemnity costs per accident year incurred claims. [4]Weighted average, 2013-2017.

Source: ISO®, a Verisk Analytics® business.

Causes Of Homeowners Insurance Losses

Property damage, including theft, accounted for 98.1 percent of homeowners insurance claims in 2017. Changes in the type of homeowners loss from one year to another are partially influenced by fluctuations in the number and severity of weather-related events such as hurricanes and winter storms. There are two ways of looking at losses: by the average number of claims filed per 100 policies (frequency) and by the average amount paid for each claim (severity). The loss category "Water damage and freezing" includes damage caused by mold, if covered.

Homeowners Insurance Losses By Cause, 2013-2017[1] (Percent of losses incurred)

Cause of loss	2013	2014	2015	2016	2017
Property damage[2]	**95.5%**	**95.8%**	**96.3%**	**96.6%**	**98.1%**
Fire and lightning	28.5	23.9	21.6	25.0	35.1
Wind and hail	30.0	28.7	21.2	34.1	38.2
Water damage and freezing	27.1	34.0	46.1	30.2	19.5
Theft	3.4	2.4	1.7	1.8	1.0
All other property damage[3]	6.4	6.8	5.6	5.5	4.4
Liability[4]	**4.5**	**4.2**	**3.7**	**3.4**	**1.9**
Bodily injury and property damage	4.3	4.0	3.6	3.2	1.8
Medical payments and other	0.2	0.2	0.2	0.2	0.2
Credit card and other[5]	[6]	[6]	[6]	[6]	[6]
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

[1]For homeowners multiple peril policies (HO-2, HO-3, HO-5). Excludes tenants and condominium owners policies. Excludes Alaska, Texas and Puerto Rico. [2]First party, i.e., covers damage to policyholder's own property. [3]Includes vandalism and malicious mischief. [4]Payments to others for which policyholder is responsible. [5]Includes coverage for unauthorized use of various cards, forgery, counterfeit money and losses not otherwise classified. [6]Less than 0.1 percent.

Source: ISO®, a Verisk Analytics® business.

In the five-year period, 2013-2017, 5.5 percent of insured homes had a claim. Wind and hail accounted for the largest share of claims, with 2.1 percent of insured homes having such a loss, followed closely by water damage and freezing.

Average Homeowners Losses, 2013-2017[1] (Weighted average, 2013-2017)

Cause of loss	Claim frequency[2]	Claim severity[3]
Property damage[4]	**5.39**	**$12,322**
Fire and lightning	0.28	68,322
Wind and hail	2.10	10,182
Water damage and freezing	2.05	10,234
Theft	0.31	4,264
All other property damage[5]	0.66	5,823
Liability[6]	**0.12**	**$19,531**
Bodily injury and property damage	0.08	26,085
Medical payments and other	0.03	3,465
Credit card and other[7]	[8]	**$368**
Average (property damage and liability), 2013-2017	**5.51**	**$12,474**

[1]For homeowners multiple peril policies (HO-2, HO-3, HO-5 and HE-7 for North Carolina). Excludes tenants and condominium owners policies. Excludes Alaska, Texas and Puerto Rico. [2]Claims per 100 house years (policies). [3]Accident year incurred losses, excluding loss adjustment expenses, i.e., indemnity costs per accident year incurred claims. [4]First party, i.e., covers damage to policyholder's property. [5]Includes vandalism and malicious mischief. [6]Payments to others for which policyholder is responsible. [7]Includes coverage for unauthorized use of various cards, forgery, counterfeit money and losses not otherwise classified. [8]Less than 0.01.

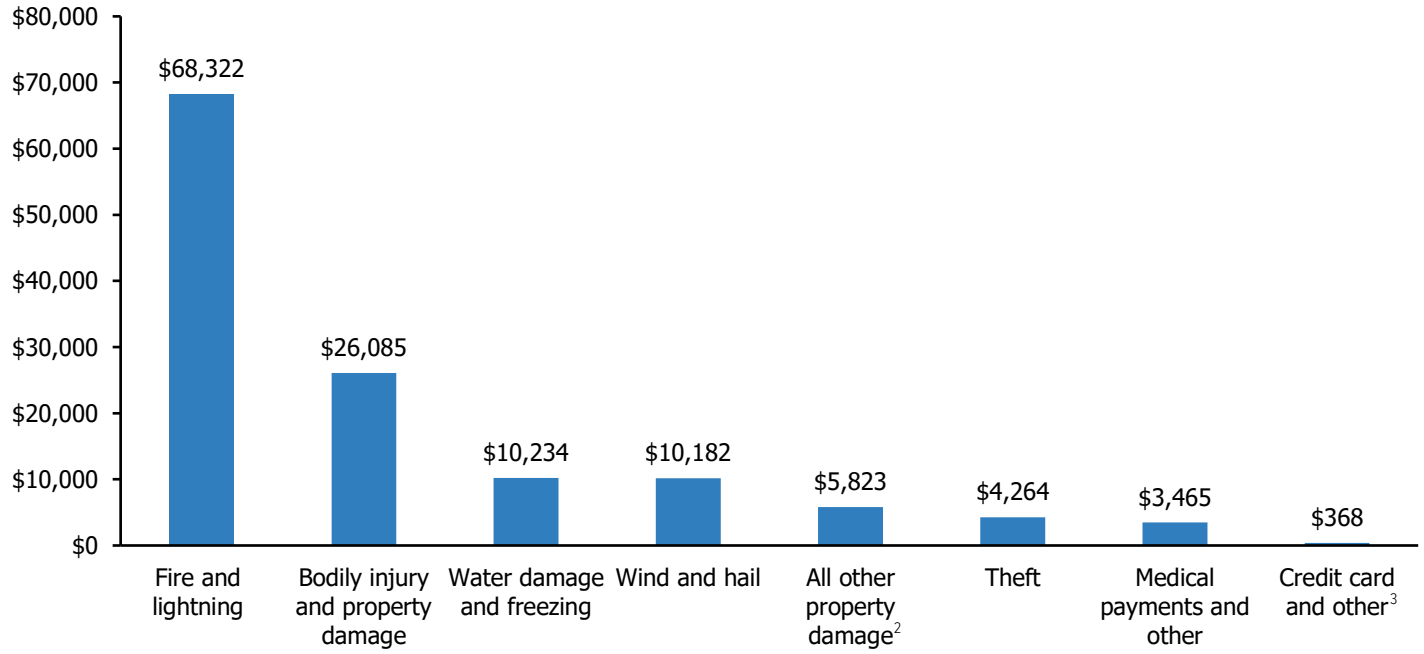
Source: ISO®, a Verisk Analytics® business.

Homeowners Insurance Claims Frequency*

- Homeowners claims related to wind or hail are the most frequent; the costliest are related to fire and lightning.
- About one in 20 insured homes has a claim each year.
- About one in 50 insured homes has a property damage claim related to wind or hail each year.
- About one in 50 insured homes has a property damage claim caused by water damage or freezing each year.
- About one in 325 insured homes has a property damage claim due to theft each year.
- About one in 360 insured homes has a property damage claim related to fire and lightning.
- About one in 900 homeowners policies has a liability claim related to the cost of lawsuits for bodily injury or property damage that the policyholder or family members cause to others.

*Insurance Information Institute calculations, based on ISO®, a Verisk Analytics® business, data for homeowners insurance claims from 2013-2017 (see table above).

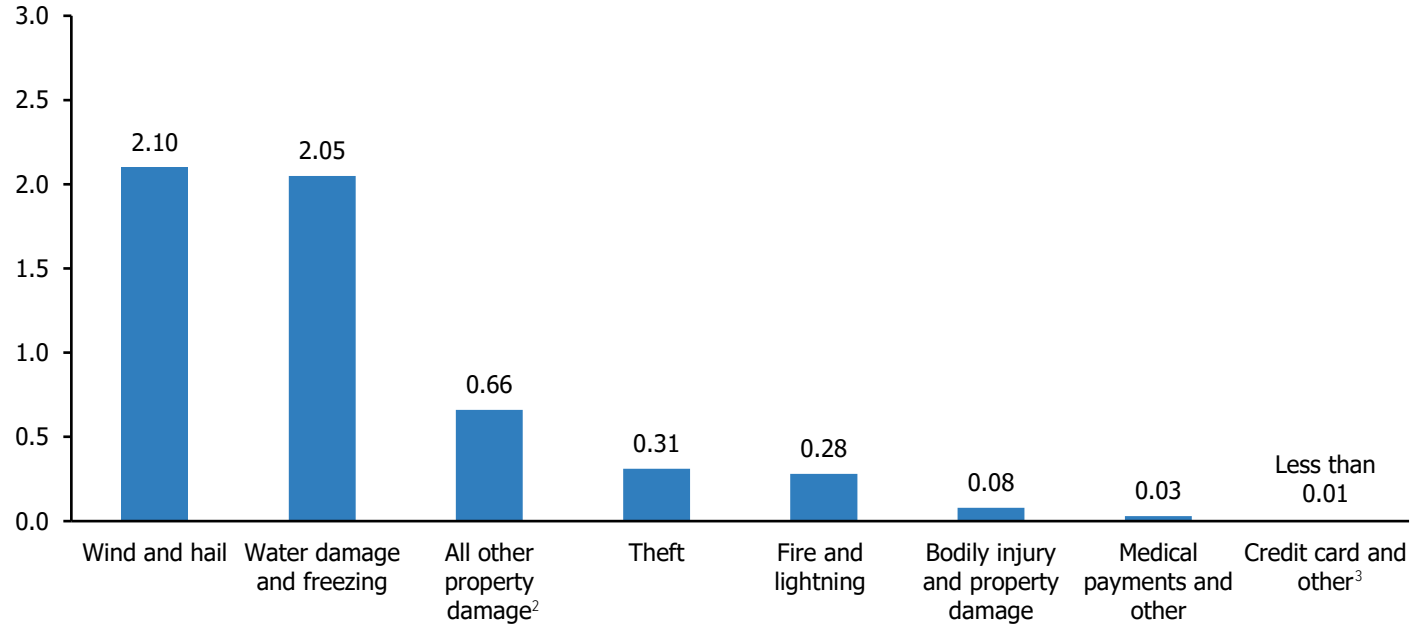
Homeowners Losses Ranked By Claims Severity (Average Claim), 2013-2017[1] (Weighted average, 2013-2017)



[1]For homeowners multiple peril policies (HO-2, HO-3, HO-5 and HE-7 for North Carolina). Excludes tenants and condominium owners policies. Accident year incurred losses, excluding loss adjustment expenses, i.e., indemnity costs per accident year incurred claims. Excludes Alaska, Texas and Puerto Rico. [2]Includes vandalism and malicious mischief. [3]Includes coverage for unauthorized use of various cards, forgery, counterfeit money and losses not otherwise classified.

Source: ISO®, a Verisk Analytics® business.

Homeowners Losses Ranked By Claims Frequency, 2013-2017[1] (Weighted average, 2013-2017)



[1]Claims per 100 house years (policies). For homeowners multiple peril policies (HO-2, HO-3, HO-5 and HE-7 for North Carolina). Excludes tenants and condominium owners policies. Excludes Alaska, Texas and Puerto Rico. [2]Includes vandalism and malicious mischief. [3]Includes coverage for unauthorized use of various cards, forgery, counterfeit money and losses not otherwise classified.

Source: ISO®, a Verisk Analytics® business.

Incurred Losses For Homeowners Insurance, 2014-2018[1] ($000)

Year	Incurred losses
2014	$39,910,457
2015	41,237,535
2016	44,388,823
2017	56,479,717
2018	56,234,347

[1]Losses occurring within a fixed period, whether or not adjusted or paid during the same period, after reinsurance transactions.
Source: NAIC data, sourced from S&P Global Market Intelligence; Insurance Information Institute.

Water Damage

An online survey of 1,200 homeowners conducted for Chubb Ltd. in July 2017 found that only 19 percent of respondents thought that water damage from internal leaks was the most concerning home threat, despite ISO data that show water damage and freezing as the second most common cause of homeowners losses from 2013 to 2017, and the third most expensive. August is the month when most water leaks occur, according to Chubb. Only 8 percent of survey respondents identified the month correctly. The majority of respondents believed the risk of water damage is greatest during the winter months of January and February. Eighty-eight percent of the homeowners knew where their water main was located, but just 22 percent shut off their water before embarking on summer vacation. Only 18 percent have installed a water leak detection device, although almost half (45 percent) have had or know someone who has had a water leak in the past two years.

The 2018 Chubb Water Risk Survey found virtually no improvement in homeowners installing water leak shut-off devices, with only 19 percent saying they installed a device compared to 18 percent in 2017. This is despite the finding that 73 percent of homeowners are very or somewhat concerned about property damage from environmental or maintenance issues, and 9 out of 10 saying they are "vigilant" or do an "okay job" for preventive home maintenance. Chubb claims data show that homeowners are 40 percent more likely to report a water loss during the winter, but only 21 percent of homeowners participating in the 2018 survey said they installed pipe insulation to protect against water damage. In 2017, 28 percent of homeowners said they took this precaution.

Lightning

In 2018 there were 20 direct lightning fatalities, up from 16 in 2017 which was the lowest since record-keeping began in 1941. From 2009 to 2018 on average 27 people died each year from lightning strikes in the United States, according to the National Weather Service.

Florida had the most lightning deaths in 2018 with seven deaths, followed by three in Tennessee, according to statistics from the National Oceanic and Atmospheric Administration (NOAA). Arkansas and Missouri each had two deaths directly related to lightning while Alabama, Georgia, Illinois, North Carolina, New York and Texas each reported one death.

Homeowners Insurance Claims And Payout For Lightning Losses, 2016-2018

Year	Number of claims	Average cost per claim	Value of claims ($ millions)
2016	89,055	$9,628	$857.0
2017	85,020	10,781	916.6
2018	77,898	11,668	908.9
Percent change			
2017-2018	-8.4%	8.2%	-0.8%
2016-2018	-12.5	21.2	6.0

Source: Insurance Information Institute.

Top 10 States For Homeowners Insurance Lightning Losses By Number Of Claims, 2018

Rank	State	Number of paid claims	Insured losses ($ millions)	Average cost per claim
1	Florida	7,108	$74.2	$10,436
2	Georgia	5,539	52.2	9,430
3	California	4,909	137.1	27,932
4	Texas	4,559	67.6	14,819
5	Louisiana	3,553	22.7	6,377
6	North Carolina	3,119	36.1	11,561
7	Alabama	2,942	34.6	11,768
8	New York	2,938	31.9	10,873
9	Pennsylvania	2,590	30.0	11,572
10	Illinois	2,475	25.5	10,290
	Total, top 10	**39,732**	**$511.8**	**$12,882**
	Other states	38,166	397.1	10,405
	Total U.S.	**77,898**	**$908.9**	**$11,668**

Source: Insurance Information Institute.

FLOOD INSURANCE

As of November 2019, 59 insurance companies participated in the Write Your Own program, started in 1983, in which insurers issue policies and adjust flood claims on behalf of the federal government under their own names.

In 2018, 87 percent of NFIP policies were held in the WYO program.

As of August 2019, 69 percent of policies covered single family homes, 20 percent covered condominiums, and 5 percent covered businesses and other non-residential properties. Two-to-four-family units and other residential policies accounted for the remainder.

As of March 21, 2019, Hurricane Katrina in 2005 had the highest NFIP payouts, at $16.3 billion. In September 2017 Hurricane Harvey ranked second with $8.9 billion in NFIP payouts. Superstorm Sandy, which occurred in October 2012, ranked third, with $8.8 billion in NFIP payouts.

Hurricane Irma, also in 2017, ranked ninth with $1 billion in payouts.

National Flood Insurance Program

Flood damage is excluded under standard homeowners and renters insurance policies. However, flood coverage is available as a separate policy from the National Flood Insurance Program (NFIP), administered by the Federal Emergency Management Agency (FEMA), and from some private insurers. Congress created the NFIP in 1968. The program makes federally backed flood insurance available in communities that agree to adopt and enforce floodplain management ordinances. The NFIP is self-supporting for the average historical loss year unless there is a widespread disaster.

In 2016 the NFIP put a reinsurance program in place, and in January 2017 FEMA transferred $1.02 billion of the NFIP's financial risk to 25 reinsurers. The program later recovered the entire amount based on Hurricane Harvey losses. In 2018 the NFIP returned to the private reinsurance market, paying $235 million for $1.458 billion in coverage from a single flood event from 28 reinsurers. In 2017 reinsurers covered 26 percent of the $4 billion in losses after NFIP retained the first $4 billion in losses. In 2018 reinsurers will eventually pay 18.6 percent of the first $2 billion of losses in excess of $4 billion, and 54.3 percent of the next $2 billion in excess of $6 billion, up to a maximum of $1.46 billion. In both 2017 and 2018 the NFIP got no protection for the first $4 billion of any flood event. In January 2019 the NFIP obtained $1.32 billion in reinsurance from 28 carriers. The coverage would cover losses above $4 billion from a single event, at a premium cost of $186 million; 14 percent of losses between $4 billion to $6 billion; 25.6 percent of losses between $6 billion and $8 billion; and 26.6 percent of losses between $8 billion and $10 billion.

As of April 2019 FEMA had secured $800 million in funding from catastrophe bonds. In August 2018 FEMA launched its first catastrophe bond to transfer risk from the NFIP to capital markets. FEMA obtained $500 million of reinsurance protection from the FloodSmart Re Ltd. (Series 2018-1 issuance). The transaction will cover NFIP losses from flood events that are directly or indirectly caused by a named storm event impacting the United States, including Puerto Rico, the U.S. Virgin Islands and the District of Columbia. In March 2019 FEMA secured a second catastrophe bond seeking $300 million from the FloodSmart Re Ltd. Series 2019-1. The program extends over three years and the terms are identical to the August 2018 catastrophe bond. According to Artemis, the latest catastrophe bond brings total capital markets backed reinsurance coverage to $800 million and when added to traditional reinsurance purchased in January, NFIP protection comes to $2.12 billion for the 2019 named storm season.

Congress must periodically renew the program's authority to operate. If the program were to lapse, claims would still be paid but the NFIP would stop selling and renewing policies (more details here). In March, 2019 the Trump administration announced plans to reform the NFIP with a shift to fully risk-based pricing. FEMA said the program would begin to assess properties individually, instead of calculating rates based on whether a home falls in a designated flood zone. This could potentially drive more flood risk into private reinsurance and risk markets. FEMA will announce new rates on April 1, 2020, and it will implement the new system on October 1, 2021.

The 2018 Insurance Information Institute *Pulse* survey found that 15 percent of American homeowners had a flood insurance policy, up from 12 percent who had the coverage in 2016.

Homeowners Who Have Flood Insurance, 2013-2018

	2013	2014	2015	2016	2018
By region					
South	15%	20%	21%	14%	21%
Northeast	10	11	11	13	16
Midwest	12	7	10	8	12
West	11	8	9	10	10
Total	**14%**	**14%**	**14%**	**12%**	**15%**

Source: Insurance Information Institute *Pulse* surveys.

Flood Insurance Losses

National Flood Insurance Program (NFIP) payouts vary widely from year to year. Flood loss payments totaled $1.4 billion in 2018, well below 2017 when Hurricanes Harvey and Irma contributed to losses of $8.7 billion. Losses in 2018 were also less than the $9.5 billion in 2012, the year of superstorm Sandy. In 2005 loss payments totaled $17.8 billion, the highest amount on record, including losses from Hurricanes Katrina, Rita and Wilma. See this section for information on flood insurance losses.

National Flood Insurance Program, 1980-2018[1]

Year	Policies in force at year-end	Losses paid		Average paid flood claim
		Number	Amount ($000)	
1980	2,103,851	41,918	$230,414	$5,497
1985	2,016,785	38,676	368,239	9,521
1990	2,477,861	14,766	167,897	11,371
1995	3,476,829	62,441	1,295,578	20,749
2000	4,369,087	16,362	251,721	15,384
2005	4,962,011	213,593	17,770,443	83,198
2009	5,700,235	31,034	779,974	25,133
2010	5,645,436	29,164	773,706	26,529
2011	5,646,144	78,236	2,429,440	31,053
2012	5,620,017	151,849	9,516,995	62,674
2013	5,568,642	18,118	492,542	27,185
2014	5,406,725	12,907	380,222	29,459
2015	5,205,094	25,798	1,028,338	39,861
2016	5,081,470	59,332	3,693,244	62,247
2017	5,133,785	95,235	8,736,386	91,735
2018	5,178,978	31,801	1,354,075	42,580

[1]Data in this chart may not match similar data shown elsewhere from the same source due to the use of different exhibits.
Source: U.S. Department of Homeland Security, Federal Emergency Management Agency.

As of March 21, 2019, there were more than 76,000 paid losses from Hurricane Harvey and the average paid loss was $116,800. This compares to Hurricane Katrina, which had 167,000 paid losses, at an average of $97,500 per loss.

In 2018 the average amount of flood coverage was $257,000, and the average premium was $642.

The average flood claim in 2018 was $42,580, down from $91,735 in 2017, the year Hurricanes Harvey, Irma and Maria struck.

NFIP earned premiums rose 0.6 percent in 2018 after falling 0.7 percent in 2017.

National Flood Insurance Plan Policies By State, 2018[1]

State	Direct NFIP business		WYO business		Total NFIP/WYO	
	Number of policies	Insurance in force[2] ($ millions)	Number of policies	Insurance in force[2] ($ millions)	Number of policies	Insurance in force[2] ($ millions)
Alabama	9,731	$2,128.9	44,617	$10,795.4	54,348	$12,924.2
Alaska	620	152.0	1,791	508.3	2,411	660.3
Arizona	5,277	1,289.8	25,854	6692.6	31,131	7,982.4
Arkansas	3,054	503.3	12,470	2416.7	15,524	2,920.0
California	36,579	10,363.2	189,141	55,361.5	225,720	65,724.7
Colorado	3,673	937.2	17,298	4,544.5	20,971	5,481.8
Connecticut	2,184	524.7	34,926	9,025.3	37,110	9,550.1
Delaware	4,374	1,197.7	22,595	6,017.0	26,969	7,214.7
D.C.	137	38.7	1,966	475.9	2,103	514.6
Florida	123,746	32,781.6	1,633,981	407,159.3	1,757,727	439,940.9
Georgia	15,526	4,022.8	71,057	19,566.4	86,583	23,589.2
Hawaii	2,712	657.5	59,663	13,837.2	62,375	14,494.8
Idaho	991	250.4	4,922	1,272.5	5,913	1,523.0
Illinois	10,077	1,819.1	29,410	6,168.5	39,487	7,987.6
Indiana	4,689	789.6	17,088	3,595.3	21,777	4,384.9
Iowa	2,295	380.6	9,926	2,198.4	12,221	2,579.0
Kansas	1,981	340.3	7,160	1,491.1	9,141	1,831.4
Kentucky	3,338	500.5	16,909	3,056.0	20,247	3,556.4
Louisiana	123,628	30,630.0	377,661	101,986.8	501,289	132,616.8
Maine	564	121.7	7,645	1,889.2	8,209	2,010.9
Maryland	6,111	1,589.2	60,991	14,682.9	67,102	16,272.0
Massachusetts	4,152	958.1	57,213	15,043.1	61,365	16,001.2
Michigan	3,702	570.0	16,493	3,285.7	20,195	3,855.7
Minnesota	1,463	333.9	7,211	1,780.3	8,674	2,114.2
Mississippi	13,225	3,190.3	49,771	12,489.2	62,996	15,679.5
Missouri	3,951	633.6	16,199	3,423.9	20,150	4,057.4
Montana	850	184.9	4,328	937.1	5,178	1,122.0
Nebraska	1,854	317.7	6,780	1,406.5	8,634	1,724.2
Nevada	1,965	482.3	9,115	2,441.2	11,080	2,923.5
New Hampshire	556	122.2	7,496	1,706.4	8,052	1,828.7
New Jersey	16,055	3,627.4	207,846	52,912.7	223,901	56,540.1
New Mexico	1,995	393.3	10,316	2,245.0	12,311	2,638.2

(table continues)

National Flood Insurance Plan Policies By State, 2018[1] (Cont'd)

State	Direct NFIP business		WYO business		Total NFIP/WYO	
	Number of policies	Insurance in force[2] ($ millions)	Number of policies	Insurance in force[2] ($ millions)	Number of policies	Insurance in force[2] ($ millions)
New York	17,342	$4,452.9	159,526	$44,395.9	176,868	$48,848.9
North Carolina	16,720	3,944.9	123,387	31,549.9	140,107	35,494.8
North Dakota	1,579	435.7	7,938	2,209.9	9,517	2,645.6
Ohio	5,823	893.2	25,407	5,024.9	31,230	5,918.1
Oklahoma	2,910	583.2	9,864	2,208.0	12,774	2,791.2
Oregon	5,502	1,376.9	20,809	5,434.3	26,311	6,811.2
Pennsylvania	8,275	1,420.5	47,170	10,627.6	55,445	12,048.1
Rhode Island	454	118.7	12,725	3,369.1	13,179	3,487.8
South Carolina	24,238	6,747.8	182,588	48,462.7	206,826	55,210.5
South Dakota	551	115.6	2,739	621.1	3,290	736.7
Tennessee	4,876	1,194.4	23,377	5,881.4	28,253	7,075.7
Texas	124,752	33,568.9	622,582	176,667.0	747,334	210,235.9
Utah	650	155.6	3,489	943.0	4,139	1,098.6
Vermont	307	55.9	3,205	730.7	3,512	786.7
Virginia	17,091	4,421.9	91,099	24,351.0	108,190	28,772.9
Washington	5,134	1,231.3	29,352	7,836.8	34,486	9,068.1
West Virginia	4,363	508.7	10,634	1,801.6	14,997	2,310.3
Wisconsin	1,678	291.1	10,731	2,186.3	12,409	2,477.4
Wyoming	326	81.1	1,430	379.0	1,756	460.1
Guam	106	20.8	74	15.5	180	36.3
American Samoa	0	0.0	137	2.3	137	2.3
N. Mariana Islands	2	0.1	3	0.3	5	0.4
Puerto Rico	2,668	102.4	8,692	1,203.1	11,360	1,305.5
Virgin Islands	297	55.4	1,415	249.0	1,712	304.3
United States	**656,699**	**$163,609.5**	**4,438,212**	**$1,146,562.3**	**5,094,911**	**$1,310,171.8**

[1]Direct and Write-Your-Own (WYO) business may not add to total due to rounding. [2]Total limits of liability for all policies in force.

Source: U.S. Department of Homeland Security, Federal Emergency Management Agency.

Private Flood Insurance

The National Flood Insurance Program, now 50 years old, compensated for coverage not available in the private market. Private insurers did not have reliable ways of measuring flood risk but technological advances now allow insurers to underwrite risk more accurately and make sounder actuarial decisions. In early 2019 federal regulators allowed mortgage lenders to accept private homeowners flood insurance if the policies abide by regulatory definitions. Also allowed are private insurance policies that do not meet regulations if insurers provide adequate protection according to general safety and soundness requirements. The effect is likely to impact homeowners in states where most of the nation's flood insurance policies are held. In 2018 net premiums written for private flood insurance totaled $541 million, up 11.5 percent from $471 million in 2017, according to S&P Global Market Intelligence. According to the National Association of Insurance Commissioners, there were 120 private companies writing flood insurance in 2018, compared with about 90 in 2017 and 50 in 2016. A.M. Best says the increase in private carriers improves competition and helps spread the economic risk that comes from flooding. Private carriers can also offer higher coverage than FEMA's National Flood Insurance Program policies, currently capped at $250,000 for residential buildings and $500,000 for non-residential buildings.

Private Flood Insurance, 2016-2018 ($000)

Year	Net premiums written[1]	Annual percent change	Combined ratio[2]	Annual point change[3]
2016	$277,819	NA	93.8	NA
2017	470,961	69.5%	186.1	92.3 pts.
2018	540,875	14.8	55.0	-131.1

[1]After reinsurance transactions, excludes state funds. [2]After dividends to policyholders. A drop in the combined ratio represents an improvement; an increase represents a deterioration. [3]Calculated from unrounded numbers. NA=Data not available.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Top 10 Writers of Private Flood Insurance By Direct Premiums Written, 2018[1] ($000)

Rank	Group/company	Direct premiums written[2]	Market share[3]
1	FM Global	$299,749	42.7%
2	Assurant Inc.	83,042	11.8
3	Zurich Insurance Group	77,128	11.0
4	American International Group (AIG)	59,759	8.5
5	Swiss Re Ltd.	49,688	7.1
6	Berkshire Hathaway Inc.	19,837	2.8
7	Liberty Mutual	19,329	2.8
8	Alleghany Corp.	17,571	2.5
9	Allianz Group	15,924	2.3
10	MAPFRE	14,603	2.1

[1]Private flood includes both commercial and private residential coverage, primarily first-dollar stand-alone policies that cover the flood peril and excess flood. Excludes sewer/water backup and the crop flood peril. [2]Before reinsurance transactions. [3]Based on U.S. total, includes territories.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

EARTHQUAKE INSURANCE

Standard homeowners, renters and business insurance policies do not cover damage from earthquakes. Coverage is available either in the form of an endorsement or as a separate policy. Earthquake insurance provides protection from the shaking and cracking that can destroy buildings and personal possessions. Coverage for other kinds of damage that may result from earthquakes, such as fire and water damage due to burst gas and water pipes, is provided by standard home and business insurance policies. Earthquake coverage is available mostly from private insurance companies. In California homeowners, renters, mobile home owners and condo-unit owners can also get coverage from the California Earthquake Authority (CEA), a not-for-profit, privately funded, publicly managed organization. According to the CEA only about 13 percent of California homeowners had earthquake coverage in July 2019, when Southern California was struck by the strongest quakes the state had felt in 20 years.

Eleven percent of homeowners responding to a November 2018 poll by the Insurance Information Institute said they had earthquake insurance. Homeowners in the West were most likely to have earthquake insurance, with 17 percent saying they had the coverage, followed by the Midwest at 11 percent; the Northeast at 9 percent; and the South at 7 percent. See this section for information on earthquake insurance losses.

Earthquake Insurance, 2009-2018 ($000)

Year	Net premiums written[1]	Annual percent change	Combined ratio[2]	Annual point change[3]
2009	$1,288,353	2.3%	36.3	2.8 pts.
2010	1,443,598	12.0	41.4	5.1
2011	1,467,372	1.6	55.8	14.4
2012	1,593,451	8.6	36.3	-19.5
2013	1,586,985	-0.4	30.3	-6.0
2014	1,641,847	3.5	34.0	3.7
2015	1,649,753	0.5	28.1	-5.8
2016	1,535,142	-6.9	34.4	6.2
2017	1,511,543	-1.5	42.3	8.0
2018	1,827,535	20.9	44.4	2.0

[1]After reinsurance transactions, excludes state funds, such as the California Earthquake Authority (CEA), a not-for-profit, privately funded, publicly managed organization that provides coverage in California. [2]After dividends to policyholders. A drop in the combined ratio represents an improvement; an increase represents a deterioration. [3]Calculated from unrounded numbers.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Leading Writers Of Earthquake Insurance

The California Earthquake Authority (CEA), a not-for-profit, publicly managed, privately funded organization that sells its policies through participating private insurance companies, was the leading writer of residential earthquake insurance in the United States, based on direct premiums written in 2018, according to data from S&P Global Market Intelligence. The CEA had $774 million in direct premiums written in 2018, all of which covered residential California properties. It accounted for 23.8 percent of the total U.S. earthquake insurance market in 2018. The nine other largest earthquake insurers in 2018 were all private insurance companies.

Top 10 Writers Of Earthquake Insurance By Direct Premiums Written, 2018 ($000)

Rank	Group/company	Direct premiums written[1]	Market share[2]
1	California Earthquake Authority	$774,296	23.8%
2	State Farm Mutual Automobile Insurance	268,092	8.3
3	Zurich Insurance Group	225,717	6.9
4	Chubb Ltd.	157,018	4.8
5	American International Group (AIG)	133,495	4.1
6	Travelers Companies Inc.	127,366	3.9
7	GeoVera Insurance Group	104,634	3.2
8	Palomar Specialty Insurance Co.	92,980	2.9
9	Liberty Mutual	82,584	2.5
10	AXA	75,591	2.3

[1]Before reinsurance transactions, includes state funds. [2]Based on U.S. total, includes territories.
Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

COMMERCIAL LINES

The commercial lines sector of the property/casualty insurance industry generally provides insurance products for businesses as opposed to the personal lines sector, which offers products for individuals and households. However, the division between commercial and personal coverages is not precise. For example, inland marine insurance, which is included in the commercial lines sector, may cover some personal property such as expensive jewelry and fine art.

Leading Companies

Top 10 Writers Of Commercial Lines Insurance By Direct Premiums Written, 2018 ($000)

Rank	Group/company	Direct premiums written[1]	Market share[2]
1	Travelers Companies Inc.	$17,580,086	5.5%
2	Chubb Ltd.	17,533,247	5.5
3	Liberty Mutual	15,910,049	5.0
4	American International Group (AIG)	12,715,146	4.0
5	Zurich Insurance Group	12,171,979	3.8
6	Berkshire Hathaway Inc.	10,341,805	3.2
7	CNA Financial Corp.	10,216,730	3.2
8	Hartford Financial Services	9,071,385	2.8
9	Nationwide Mutual Group	7,951,827	2.5
10	Tokio Marine Group	6,959,032	2.2

[1]Before reinsurance transactions, includes state funds. [2]Based on U.S. total, includes territories.
Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Top 10 Commercial Insurance Brokers Of U.S. Business By Revenue, 2018[1] ($ millions)

Rank	Company	Brokerage revenues
1	Marsh & McLennan Cos. Inc.[2, 3]	$7,524.0
2	Aon PLC[2]	4,654.4
3	Willis Towers Watson PLC	3,954.1
4	Arthur J. Gallagher & Co.[2]	3,574.6
5	BB&T Insurance Holdings Inc.[2]	2,016.3
6	Brown & Brown Inc.[2]	2,009.9
7	Hub International Ltd.[2]	1,674.4
8	USI Insurance Services LLC[2]	1,665.4
9	Alliant Insurance Services Inc.[2]	1,346.2
10	Acrisure LLC[2]	1,323.0

[1]Companies that derive more than 49 percent of revenues from personal lines are not ranked. [2]Reported U.S. acquisitions in 2018 and 2019. [3]Pro forma to reflect the acquisition of Jardine Lloyd Thompson Group PLC in April 2019.
Source: Business Insurance (www.businessinsurance.com), July 2019.

Workers Compensation Insurance And Excess Workers Compensation

Workers compensation insurance provides for the cost of medical care and rehabilitation for injured workers and lost wages and death benefits for the dependents of persons killed in work-related accidents. Workers compensation systems vary from state to state. Workers compensation combined ratios are expressed in two ways: calendar year results reflect claim payments and changes in reserves for accidents that happened in that year or earlier; and accident year results only include losses from a particular year. Excess workers compensation, a coverage geared to employers that self-insure for workers compensation, comes into play when claims exceed a designated dollar amount.

Workers Compensation Insurance, 2009-2018 ($000)

Year	Net premiums written[2]	Annual percent change	Combined ratio[1]			
			Calendar year[3]	Annual point change[4]	Accident year[5]	Annual point change
2009	$32,247,870	-12.7%	107.9	6.4 pts.	107	3 pts.
2010	31,643,087	-1.9	116.1	8.2	114	7
2011	35,664,230	12.7	117.6	1.5	110	-4
2012	38,947,491	9.2	110.4	-7.2	102	-8
2013	41,147,216	5.6	103.0	-7.4	96	-6
2014	43,753,885	6.3	101.9	-1.2	92	-4
2015	45,355,102	3.7	95.5	-6.4	92	0
2016	45,619,831	0.6	95.6	0.1	93	1
2017	45,047,380	-1.3	92.2	-3.4	96	3
2018	48,343,292	7.3	86.2	-5.9	97[6]	1

[1]After dividends to policyholders. A drop in the combined ratio represents an improvement; an increase represents a deterioration. [2]After reinsurance transactions, excludes state funds. [3]Calendar year data are from S&P Global Market Intelligence. [4]Calculated from unrounded data. [5]Accident year data are from the National Council on Compensation Insurance (NCCI). [6]Estimated by NCCI.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute; © National Council on Compensation Insurance.

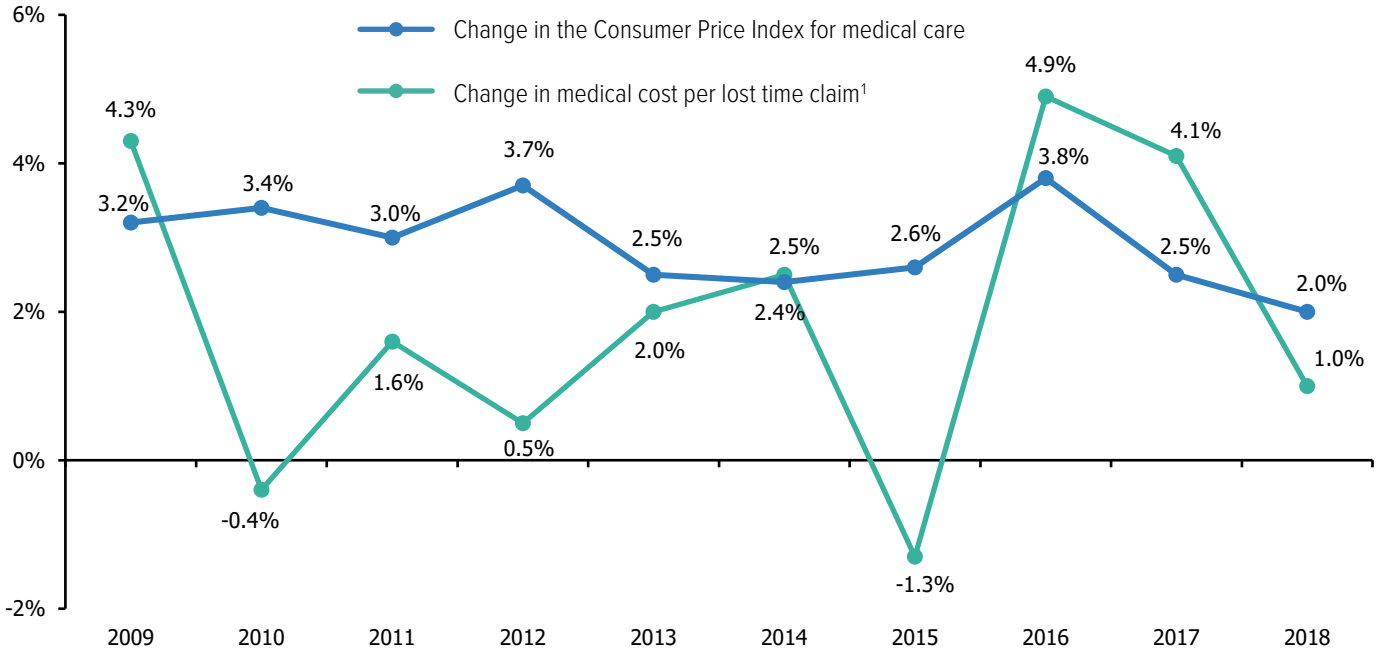
Excess Workers Compensation Insurance, 2009-2018 ($000)

Year	Net premiums written[1]	Annual percent change	Combined ratio[2]	Annual point change[3]
2009	$941,117	1.6%	34.8	-113.5 pts.
2010	799,733	-15.0	50.9	16.0
2011	816,435	2.1	134.7	83.8
2012	815,770	-0.1	153.6	18.9
2013	844,098	3.5	69.3	-84.3
2014	920,223	9.0	108.2	39.0
2015	929,393	1.0	113.6	5.4
2016	889,191	-4.3	111.6	-2.0
2017	796,587	-10.4	101.0	-10.6
2018	722,354	-9.3	110.4	9.4

[1]After reinsurance transactions, excludes state funds. [2]After dividends to policyholders. A drop in the combined ratio represents an improvement; an increase represents a deterioration. [3]Calculated from unrounded data.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Workers Compensation Medical Costs, 2009-2018



[1]Based on states where the National Council on Compensation Insurance provides ratemaking services. Represents costs for injuries that resulted in time off from work. Data for 2018 are preliminary.

Source: U.S. Bureau of Labor Statistics; © National Council on Compensation Insurance.

Workers Compensation Benefits, Coverage And Costs, 2017

	2017	Percent change, 2013-2017
Covered workers (000)	140,397	7.5%
Covered wages ($ billions)	$7,785	19.6
Workers compensation benefits paid ($ billions)	62.0	-2.2
Medical benefits	31.2	-3.8
Cash benefits	30.8	-0.6
Employer costs for workers compensation ($ billions)	97.4	9.1

Source: *Workers Compensation: Benefits, Coverage, and Costs, October 2019,* National Academy of Social Insurance.

Marijuana use and workers compensation issues

As of June 2019, more than 30 states, Washington, D.C., Guam and Puerto Rico have programs that allow qualifying patients to access medical marijuana products. Another 13 states permit non-intoxicating medical products. Eleven states and D.C. permit recreational marijuana for adults over the age of 21. The laws and regulations governing the use of legal marijuana vary by state, and have impacts on workplace safety, employer duties and obligations, and workers compensation insurance. Federal law prohibits marijuana for any purpose.

Marijuana as an intoxicant has raised concerns about workplace safety where medical and recreational marijuana is legal, according to the Insurance Information Institute's white paper, *Haze of Confusion*. The complications in determining user impairment from marijuana intoxication and a lack of reliable data on workplace marijuana use make it difficult to determine how marijuana might affect workplace safety. Marijuana potency is linked to THC, the active chemical that induces intoxication from marijuana. A key issue in determining the prevalence and effects of workplace marijuana impairment is "THC persistence," the length of time THC is detectable in the blood. Unlike alcohol, THC levels in a user's body may not be an accurate indication of impairment (see Marijuana and impaired driving). While most studies agree that marijuana intoxication impairs coordination, memory, attention, cognitive flexibility and reaction time, it is not currently possible to determine worker impairment based on THC levels alone. However, marijuana's intoxicating effects have caused concern that workers using marijuana, whether off-duty or on-duty, may endanger themselves and their colleagues, particularly in safety-sensitive occupations.

There are conflicting findings concerning marijuana and workplace accident risks. A RAND Corp. survey of studies concluded that "the proportion of occupational injuries attributed to acute substance use [of marijuana and other drugs] is relatively small." A 2017 National Academies of Science, Engineering and Medicine (NASEM) study concluded that there is "insufficient evidence to support or refute a statistical association between cannabis use and occupational accidents or injuries." However, according to the U.S. National Institute on Drug Abuse, some evidence supports that workers who test positive for marijuana are more likely to be involved in a workplace accident, while a 2018 study in the *International Journal of Drug Policy* found evidence that medical marijuana legalization may be associated with a decline in workplace fatalities among workers ages 25 to 44. Also clouding the picture is THC persistence, which makes it difficult if not impossible to determine whether a worker with a positive test was intoxicated at the time of an accident.

Medical use

No state that permits medical marijuana requires employers to accommodate on-duty marijuana use and possession, or to tolerate impairment. States will often explicitly make clear that medical marijuana laws do not affect an employer's drug-free workplace policy. States do differ on whether an employer must accommodate off-duty medical marijuana use, with various courts taking conflicting positions. About 13 states protect patients from discrimination or adverse employment actions based solely on their off-duty marijuana use or on their status as medical marijuana cardholders. Some states also require employers to provide "reasonable accommodations" to medical marijuana cardholders with some conditions, and these laws may fall under state disability laws.

No state protects on-duty recreational marijuana use. State laws will often explicitly state that recreational marijuana laws do not affect an employer's drug-free workplace policy.

Implications for insurers

Coverage under employment practices liability insurance (EPLI) policies, which cover businesses against claims by employees alleging discrimination or wrongful termination, could be affected as marijuana and employment issues evolve, especially if states and/or courts begin to take a more affirmative stance that disability laws and other accommodation laws cover medical or recreational marijuana use.

Workers compensation insurers need to address these issues related to marijuana use:

- Whether workers compensation covers a workplace injury in which the injured employee has tested positive for marijuana
- Whether workers compensation reimburses medical marijuana expenses incurred by an injured employee, and if so, how reimbursement works

The answers to these questions will largely depend on state law, as workers compensation is regulated on the state level and medical marijuana regulations vary by state. Workers compensation boards and courts can also interpret state statutes differently.

Most states restrict benefits if an employee was intoxicated at the time of injury or if the intoxication was a "proximate cause" of the injury. Some states limit compensation if an injured employee refuses to take a drug test. However, as stated previously it is difficult to determine whether an injured worker was impaired by marijuana when an accident occurred because THC levels in a user's body may not be an accurate indication of impairment.

A handful of states hold that medical marijuana is a permissible and reimbursable treatment under workers compensation. Whether workers compensation insurers are *required* to reimburse medical marijuana expenses depends on the state. Many state medical marijuana laws specifically exempt certain entities from a reimbursement requirement—usually health insurance providers. It has been argued, as in New York state, that these types of exemptions do not include workers compensation insurers. Other state medical marijuana laws specifically exempt workers compensation insurers and employers from being required to reimburse medical marijuana. In contrast, some states specifically prohibit reimbursement or make medical marijuana ineligible for reimbursement.

Currently an injured worker who qualifies for reimbursement under workers compensation is responsible for any purchases from a licensed medical marijuana dispensary. The worker then bills the workers compensation insurer or employer. Reimbursement is impeded by the fact that proper dosages for medical marijuana are still poorly understood and are not standardized across state medical programs. Furthermore, the potency of available medical marijuana and the maximum permissible purchasing amount varies by state.

Other Liability Insurance

Other liability insurance protects the policyholder from legal liability arising from negligence, carelessness or a failure to act that causes property damage or personal injury to others. It includes errors and omissions, umbrella liability and liquor liability. Product liability, a separate line of insurance, protects the manufacturer, distributor or seller of a product from legal liability resulting from a defective condition that caused personal injury or damage associated with the use of the product.

Other Liability Insurance, 2009-2018 ($000)

Year	Net premiums written[1]	Annual percent change	Combined ratio[2]	Annual point change[3]
2009	$36,184,065	-6.3%	105.5	11.7 pts.
2010	35,802,772	-1.1	108.1	2.6
2011	36,511,575	2.0	96.1	-12.0
2012	38,307,679	4.9	103.2	7.0
2013	42,075,315	9.8	96.8	-6.4
2014	44,181,272	5.0	96.6	-0.2
2015	45,585,794	3.2	101.6	5.0
2016	44,591,885	-2.2	110.8	9.2
2017	46,676,454	4.7	100.8	-9.9
2018	58,405,698	25.1	100.1	-0.8

[1]After reinsurance transactions, excludes state funds. [2]After dividends to policyholders. A drop in the combined ratio represents an improvement; an increase represents a deterioration. [3]Calculated from unrounded data.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Products Liability Insurance, 2009-2018 ($000)

Year	Net premiums written[1]	Annual percent change	Combined ratio[2]	Annual point change[3]
2009	$2,365,681	-14.8%	124.0	[4]
2010	2,050,619	-13.3	157.1	33.1 pts.
2011	2,320,540	13.2	160.0	2.9
2012	2,575,225	11.0	102.7	-57.3
2013	2,718,879	5.6	155.3	52.6
2014	2,674,183	-1.6	134.4	-20.9
2015	2,796,761	4.6	130.6	-3.7
2016	2,422,721	-13.4	124.1	-6.5
2017	2,689,115	11.0	102.1	-22.0
2018	2,790,125	3.8	122.4	20.3

[1]After reinsurance transactions, excludes state funds. [2]After dividends to policyholders. A drop in the combined ratio represents an improvement; an increase represents a deterioration. [3]Calculated from unrounded data. [4]Less than 0.1 point.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Commercial And Farmowners Multiple Peril Insurance

Commercial multiple peril insurance is a package policy that includes property, boiler and machinery, crime and general liability coverages. Farmowners multiple peril insurance, similar to homeowners insurance, provides coverage to farmowners and ranchowners against a number of named perils and liabilities. It covers a dwelling and its contents, as well as barns, stables and other structures.

Commercial Multiple Peril Insurance, 2009-2018

Total ($000)					
Year	Net premiums written[1]	Annual percent change	Year	Net premiums written[1]	Annual percent change
2009	$28,926,363	-7.5%	2014	$34,375,127	3.4%
2010	28,913,516	[2]	2015	34,741,695	1.1
2011	29,995,201	3.7	2016	34,099,664	-1.8
2012	31,502,689	5.0	2017	34,190,669	0.3
2013	33,245,146	5.5	2018	37,541,437	9.8

Nonliability portion ($000)									
Year	Net premiums written[1]	Annual percent change	Combined ratio[3]	Annual point change[4]	Year	Net premiums written[1]	Annual percent change	Combined ratio[3]	Annual point change[4]
2009	$17,927,074	-1.7%	98.3	-9.4 pts.	2014	$21,983,697	4.4%	96.8	3.5 pts.
2010	18,210,612	1.6	102.9	4.5	2015	21,478,010	-2.3	91.6	-5.2
2011	18,657,799	2.5	119.1	16.2	2016	20,840,849	-3.0	98.2	6.6
2012	19,513,568	4.6	113.9	-5.1	2017	20,673,258	-0.8	111.8	13.6
2013	21,058,709	7.9	93.3	-20.6	2018	22,553,970	9.1	107.7	-4.0

Liability portion ($000)									
Year	Net premiums written[1]	Annual percent change	Combined ratio[3]	Annual point change[4]	Year	Net premiums written[1]	Annual percent change	Combined ratio[3]	Annual point change[4]
2009	$10,999,289	-8.9%	94.2	-3.2 pts.	2014	$12,391,430	1.7%	103.6	-0.2 pts.
2010	10,702,904	-2.7	96.0	1.8	2015	13,263,685	7.0	99.2	-4.4
2011	11,337,402	5.9	101.8	5.8	2016	13,258,815	[2]	105.5	6.4
2012	11,989,121	5.7	94.1	-7.7	2017	13,517,411	2.0	101.4	-4.1
2013	12,186,437	1.6	103.8	9.7	2018	14,987,467	10.9	103.3	1.8

[1]After reinsurance transactions, excludes state funds. [2]Less than 0.1 percent. [3]After dividends to policyholders. A drop in the combined ratio represents an improvement; an increase represents a deterioration. [4]Calculated from unrounded data.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Farmowners Multiple Peril Insurance, 2009-2018 ($000)

Year	Net premiums written[1]	Annual percent change	Combined ratio[2]	Annual point change[3]
2009	$2,612,262	1.0%	107.9	-11.6 pts.
2010	2,754,955	5.5	108.2	0.3
2011	2,932,576	6.4	117.4	9.2
2012	3,277,423	11.8	99.5	-17.9
2013	3,511,651	7.1	93.9	-5.6
2014	3,628,084	3.3	95.4	1.5
2015	3,762,451	3.7	89.9	-5.6
2016	3,802,197	1.1	93.6	3.8
2017	3,925,285	3.2	105.7	12.1
2018	4,128,898	5.2	96.9	-8.8

[1]After reinsurance transactions, excludes state funds. [2]After dividends to policyholders. A drop in the combined ratio represents an improvement; an increase represents a deterioration. [3]Calculated from unrounded data.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Medical Professional Liability Insurance

Medical professional liability insurance covers facilities, doctors and other professionals in the medical field for liability claims arising from the treatment of patients.

Medical Professional Liability Insurance, 2009-2018 ($000)

Year	Net premiums written[1]	Annual percent change	Combined ratio[2]	Annual point change[3]
2009	$9,206,794	-3.3%	85.5	6.3 pts.
2010	9,096,345	-1.2	88.9	3.4
2011	8,833,365	-2.9	88.0	-1.0
2012	8,713,595	-1.4	93.1	5.2
2013	8,531,233	-2.1	89.4	-3.8
2014	8,475,474	-0.7	104.8	15.4
2015	8,201,438	-3.2	102.3	-2.5
2016	8,194,935	-0.1	106.4	4.1
2017	8,062,046	-1.6	101.6	-4.8
2018	8,344,628	3.5	104.2	2.6

[1]After reinsurance transactions, excludes state funds. [2]After dividends to policyholders. A drop in the combined ratio represents an improvement; an increase represents a deterioration. [3]Calculated from unrounded data.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Fire And Allied Lines Insurance

Fire insurance provides coverage against losses caused by fire and lightning. It is usually sold as part of a package policy such as commercial multiple peril. Allied lines insurance includes property insurance that is usually bought in conjunction with a fire insurance policy. It includes coverage for wind and water damage and vandalism.

Fire Insurance, 2009-2018 ($000)

Year	Net premiums written[1]	Annual percent change	Combined ratio[2]	Annual point change[3]
2009	$10,109,161	2.1%	78.6	-13.7 pts.
2010	10,199,101	0.9	80.2	1.7
2011	10,317,968	1.2	94.1	13.9
2012	10,795,612	4.6	87.4	-6.7
2013	11,229,431	4.0	79.1	-8.3
2014	11,501,516	2.4	86.0	6.9
2015	11,417,751	-0.7	84.9	-1.1
2016	11,005,907	-3.6	92.0	7.2
2017	10,688,228	-2.9	118.6	26.6
2018	11,622,400	8.7	111.4	-7.2

[1]After reinsurance transactions, excludes state funds. [2]After dividends to policyholders. A drop in the combined ratio represents an improvement; an increase represents a deterioration. [3]Calculated from unrounded data.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Allied Lines Insurance, 2009-2018 ($000)

Year	Net premiums written[1]	Annual percent change	Combined ratio[2]	Annual point change[3]
2009	$7,744,256	0.7%	93.6	-34.5 pts.
2010	7,494,281	-3.2	98.9	5.3
2011	7,800,211	4.1	132.7	33.8
2012	8,161,346	4.6	138.0	5.3
2013	9,251,852	13.4	90.2	-47.7
2014	9,209,843	-0.5	89.5	-0.7
2015	9,119,738	-1.0	88.1	-1.4
2016	9,758,591	7.0	98.5	10.4
2017	8,711,204	-10.7	166.3	67.8
2018	10,169,806	16.7	132.9	-33.4

[1]After reinsurance transactions, excludes state funds. [2]After dividends to policyholders. A drop in the combined ratio represents an improvement; an increase represents a deterioration. [3]Calculated from unrounded data.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Inland Marine And Ocean Marine Insurance

Inland marine insurance covers bridges and tunnels, goods in transit, movable equipment, unusual property and communications-related structures as well as expensive personal property. Ocean marine insurance provides coverage on all types of vessels, for property damage to the vessels and cargo, as well as associated liabilities. This line also includes special coverages such as builder's risk that protects structures and materials during new construction projects or renovations.

Inland Marine Insurance, 2009-2018 ($000)

Year	Net premiums written[1]	Annual percent change	Combined ratio[2]	Annual point change[3]
2009	$8,686,660	-7.7%	89.2	-3.5 pts.
2010	8,527,512	-1.8	86.0	-3.2
2011	8,768,829	2.8	97.6	11.6
2012	9,603,749	9.5	95.9	-1.7
2013	10,147,908	5.7	83.6	-12.4
2014	10,990,045	8.3	83.3	-0.2
2015	11,417,332	3.9	83.8	0.4
2016	11,407,517	-0.1	83.4	-0.3
2017	11,973,636	5.0	90.0	6.5
2018	14,588,257	21.8	86.3	-3.7

[1]After reinsurance transactions, excludes state funds. [2]After dividends to policyholders. A drop in the combined ratio represents an improvement; an increase represents a deterioration. [3]Calculated from unrounded numbers.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Ocean Marine Insurance, 2009-2018 ($000)

Year	Net premiums written[1]	Annual percent change	Combined ratio[2]	Annual point change[3]
2009	$2,941,486	-5.1%	91.8	-11.3 pts.
2010	2,740,956	-6.8	96.1	4.3
2011	2,760,853	0.7	100.9	4.8
2012	2,704,665	-2.0	109.1	8.2
2013	2,863,507	5.9	98.1	-11.0
2014	2,910,377	1.6	91.2	-7.0
2015	2,831,564	-2.7	94.3	3.1
2016	2,549,417	-10.0	97.0	2.7
2017	2,370,488	-7.0	110.3	13.2
2018	2,885,727	21.7	100.6	-9.6

[1]After reinsurance transactions, excludes state funds. [2]After dividends to policyholders. A drop in the combined ratio represents an improvement; an increase represents a deterioration. [3]Calculated from unrounded numbers.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Surety And Fidelity

Surety bonds provide monetary compensation in the event that a policyholder fails to perform certain acts such as the proper fulfillment of a construction contract within a stated period. Surety bonds are usually purchased by the party that has contracted to complete a project. They are required for public projects in order to protect taxpayers. Fidelity bonds, which are usually purchased by an employer, protect against losses caused by employee fraud or dishonesty.

Surety Bonds, 2009-2018 ($000)

Year	Net premiums written[1]	Annual percent change	Combined ratio[2]	Annual point change[3]
2009	$4,835,409	-2.5%	79.5	12.6 pts.
2010	4,851,328	0.3	70.7	-8.8
2011	4,849,480	[4]	72.9	2.2
2012	4,695,782	-3.2	76.8	3.9
2013	4,868,847	3.7	72.7	-4.0
2014	5,000,382	2.7	69.5	-3.3
2015	5,139,873	2.8	73.8	4.3
2016	5,138,543	[4]	72.0	-1.8
2017	5,368,773	4.5	72.1	0.2
2018	6,384,998	18.9	70.5	-1.7

[1]After reinsurance transactions, excludes state funds. [2]After dividends to policyholders. A drop in the combined ratio represents an improvement; an increase represents a deterioration. [3]Calculated from unrounded numbers. [4]Less than 0.1 percent.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Fidelity Bonds, 2009-2018 ($000)

Year	Net premiums written[1]	Annual percent change	Combined ratio[2]	Annual point change[3]
2009	$1,098,372	-3.7%	105.4	21.2 pts.
2010	1,082,534	-1.4	95.8	-9.6
2011	1,098,225	1.4	102.0	6.2
2012	1,096,406	-0.2	99.4	-2.6
2013	1,124,199	2.5	92.9	-6.5
2014	1,165,280	3.7	92.7	-0.2
2015	1,161,375	-0.3	77.3	-15.4
2016	1,093,925	-5.8	80.1	2.8
2017	986,403	-9.8	73.9	-6.1
2018	1,215,457	23.2	73.3	-0.6

[1]After reinsurance transactions, excludes state funds. [2]After dividends to policyholders. A drop in the combined ratio represents an improvement; an increase represents a deterioration. [3]Calculated from unrounded numbers.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Mortgage Guaranty Insurance

Private mortgage insurance (PMI), also known as mortgage guaranty insurance, guarantees that in the event of a default, the insurer will pay the mortgage lender for any loss resulting from a property foreclosure, up to a specific amount. PMI, which is purchased by the borrower but protects the lender, is sometimes confused with mortgage life insurance, a life insurance product that pays off the mortgage if the borrower dies before the loan is repaid. Banks generally require PMI for all borrowers with down payments of less than 20 percent of the home price. The industry's combined ratio, a measure of profitability, deteriorated (i.e., rose) significantly in 2007 and 2008, reflecting the economic downturn and the subsequent rise in mortgage defaults, and remained at high levels through 2012. The combined ratio began falling in 2012 and by 2018 had fallen to 29.2, the lowest since S&P Global Market Intelligence began collecting data on mortgage guaranty insurance in 1996.

Mortgage Guaranty Insurance, 2009-2018 ($000)

Year	Net premiums written[1]	Annual percent change	Combined ratio[2]	Annual point change[3]
2009	$4,564,406	-15.0%	201.9	-17.9 pts.
2010	4,248,798	-6.9	198.4	-3.6
2011	4,242,340	-0.2	219.0	20.7
2012	3,965,896	-6.5	189.7	-29.4
2013	4,329,947	9.2	98.0	-91.7
2014	4,180,006	-3.5	70.2	-27.7
2015	4,681,917	12.0	58.1	-12.1
2016	4,410,832	-5.8	49.9	-8.1
2017	4,376,797	-0.8	40.4	-9.5
2018	4,693,844	7.2	29.2	-11.2

[1]After reinsurance transactions, excludes state funds. [2]After dividends to policyholders. A drop in the combined ratio represents an improvement; an increase represents a deterioration. [3]Calculated from unrounded numbers.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Top 10 Writers Of Mortgage Guaranty Insurance By Direct Premiums Written, 2018 ($000)

Rank	Group/company	Direct premiums written[1]	Market share[2]
1	Arch Capital Group Ltd.	$1,112,064	21.4%
2	MGIC Investment Corp.	1,104,774	21.2
3	Radian Group Inc.	1,081,607	20.8
4	Genworth Financial Inc.	785,300	15.1
5	Essent Group Ltd.	668,853	12.8
6	NMI Holdings Inc.	287,791	5.5
7	PMI Group Inc.	96,082	1.8
8	Old Republic International Corp.	72,302	1.4
9	Southern Pioneer P&C Insurance Co.	127	[3]
10	Chubb Ltd.	42	[3]

[1]Before reinsurance transactions, includes state funds. [2]Based on U.S. total, includes territories. [3]Less than 0.1 percent.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Financial Guaranty Insurance

Financial guaranty insurance, also known as bond insurance, helps expand financial markets by increasing borrower and lender leverage. It guarantees the principal and interest payments on municipal obligations.

Financial guaranty insurers are specialized, highly capitalized companies that traditionally had the highest rating. The insurer's high rating attaches to the bonds thus lowering the risk of the bonds to investors. With their credit rating thus enhanced, municipalities can issue bonds that pay a lower interest rate, enabling them to borrow more for the same outlay of funds. Over the years financial guaranty insurers have expanded their reach beyond municipal bonds and now insure a wide array of products, including mortgage-backed securities, pools of credit default swaps and other structured transactions.

The combined ratio climbed to 421.4 in 2008 at the height of the economic downturn. In 2013 the combined ratio fell below zero as several companies reduced loss reserves by more than $2 billion combined as a result of strains created by the financial crisis.

Financial Guaranty Insurance, 2009-2018[1] ($000)

Year	Net premiums written[2]	Annual percent change	Combined ratio[3]	Annual point change[4]
2009	$1,793,410	-43.5%	100.6	-320.7 pts.
2010	1,371,908	-23.5	228.4	127.8
2011	968,898	-29.4	219.0	-9.4
2012	692,541	-28.5	181.6	-37.4
2013	710,480	2.6	-3.4	-184.9
2014	488,482	-31.2	91.3	94.7
2015	418,792	-14.3	99.0	7.8
2016	364,531	-13.0	177.6	78.6
2017	420,844	15.4	318.7	141.1
2018	364,313	-13.4	130.5	-188.3

[1]Based on Insurance Expense Exhibit (IEE) data. Financial Guaranty Insurance Co. did not file an IEE in 2012. Several companies in 2013 reduced loss reserves as a result of strains from the financial crisis, creating a negative combined ratio. [2]After reinsurance transactions, excludes state funds. [3]After dividends to policyholders. A drop in the combined ratio represents an improvement; an increase represents a deterioration. [4]Calculated from unrounded numbers.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Top Nine Writers Of Financial Guaranty Insurance By Direct Premiums Written, 2018 ($000)

Rank	Group/company	Direct premiums written[1]	Market share[2]
1	Assured Guaranty Ltd.	$250,934	60.1%
2	MBIA Inc.	68,592	16.4
3	Build America Mutual Assurance Co.	43,049	10.3
4	Ambac Financial Group Inc.	35,101	8.4
5	Syncora Guarantee Inc.	11,058	2.7
6	Financial Guaranty Insurance Co.	5,127	1.2
7	Transamerica Casualty Insurance Co.	3,000	0.7
8	Radian Group Inc.	679	0.2
9	ACA Financial Guaranty Corp.	3	[3]

[1]Before reinsurance transactions, includes state funds. [2]Based on U.S. total, includes territories. [3]Less than 0.1 percent.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Burglary And Theft Insurance And Boiler And Machinery Insurance

Burglary and theft insurance covers the loss of property, money and securities due to burglary, robbery or larceny. Boiler and machinery insurance is also known as mechanical breakdown, equipment breakdown or systems breakdown coverage. Among the types of equipment covered by this insurance are heating, cooling, electrical, telephone/communications and computer equipment.

Burglary And Theft Insurance, 2009-2018 ($000)

Year	Net premiums written[1]	Annual percent change	Combined ratio[2]	Annual point change[3]
2009	$152,197	-5.1%	59.6	11.5 pts.
2010	167,152	9.8	69.4	9.8
2011	194,661	16.5	61.6	-7.8
2012	220,831	13.4	58.6	-3.0
2013	207,225	-6.2	42.2	-16.4
2014	226,247	9.2	59.9	17.7
2015	230,777	2.0	61.4	1.5
2016	255,466	10.7	46.5	-14.9
2017	222,936	-12.7	48.9	2.4
2018	280,103	25.6	77.4	28.5

[1]After reinsurance transactions, excludes state funds. [2]After dividends to policyholders. A drop in the combined ratio represents an improvement; an increase represents a deterioration. [3]Calculated from unrounded numbers.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Boiler And Machinery Insurance, 2009-2018 ($000)

Year	Net premiums written[1]	Annual percent change	Combined ratio[2]	Annual point change[3]
2009	$1,803,376	4.3%	71.7	-16.1 pts.
2010	1,721,764	-4.5	71.5	-0.2
2011	1,810,941	5.2	75.0	3.5
2012	1,887,625	4.2	80.8	5.8
2013	1,979,514	4.9	72.2	-8.6
2014	1,998,967	1.0	76.3	4.1
2015	1,682,090	-15.9	69.3	-6.9
2016	1,892,160	12.5	78.6	9.3
2017	2,043,204	8.0	76.4	-2.2
2018	2,600,761	27.3	86.4	9.9

[1]After reinsurance transactions, excludes state funds. [2]After dividends to policyholders. A drop in the combined ratio represents an improvement; an increase represents a deterioration. [3]Calculated from unrounded numbers.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Crop Insurance

Federally sponsored multiple peril crop insurance provides coverage for growing crops against miscellaneous perils such as wind, hail and vandalism. Multiple peril crop insurance is serviced by the private market but subsidized and reinsured by the federal government by the Federal Crop Insurance Corp (FCIC). Private crop insurance provides the same coverage but is not reinsured by the FCIC.

Private Crop Insurance, 2014-2018 ($000)

Year	Net premiums written[1]	Annual percent change	Combined ratio[2]	Annual point change[3]
2014	$582,817	NA	138.8	NA
2015	584,600	0.3%	146.2	7.3 pts.
2016	455,410	-22.1	122.3	-23.9
2017	498,804	9.5	66.6	-55.7
2018	693,254	39.0	126.9	60.3

[1]After reinsurance transactions, excludes state funds. [2]After dividends to policyholders. A drop in the combined ratio represents an improvement; an increase represents a deterioration. [3]Calculated from unrounded data.

NA=Data not available.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Multiple Peril Crop Insurance, 2009-2018[1] ($000)

Year	Net premiums written[2]	Annual percent change	Combined ratio[3]	Annual point change[4]
2009	$3,964,690	-21.9%	79.7	-10.4 pts.
2010	3,501,631	-11.7	73.9	-5.8
2011	5,456,991	55.8	90.6	16.8
2012	5,321,811	-2.5	104.0	13.3
2013	4,942,547	-7.1	103.3	-0.7
2014	4,189,765	-15.2	104.9	1.6
2015	3,680,768	-12.1	99.9	-5.1
2016	3,321,281	-9.8	81.7	-18.2
2017	4,742,005	42.8	95.8	14.1
2018	5,380,068	13.5	85.0	-10.8

[1]Includes private crop insurance in 2013 and prior years. [2]After reinsurance transactions, excludes state funds. [3]After dividends to policyholders. A drop in the combined ratio represents an improvement; an increase represents a deterioration. [4]Calculated from unrounded numbers.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Top 10 Writers Of Multiple Peril Crop Insurance By Direct Premiums Written, 2018 ($000)

Rank	Group/company	Direct premiums written[1]	Market share[2]
1	Chubb Ltd.	$1,787,814	17.7%
2	Zurich Insurance Group	1,496,266	14.8
3	QBE Insurance Group Ltd.	1,332,650	13.2
4	CGB Insurance Co.	1,008,270	10.0
5	Great American Insurance Group	926,534	9.2
6	Sompo Holdings Inc.	784,190	7.8
7	Tokio Marine Group	622,789	6.2
8	Farmers Mutual Hail Insurance Co. of Iowa	620,493	6.1
9	American International Group (AIG)	524,706	5.2
10	Fairfax Financial Holdings	424,231	4.2

[1]Before reinsurance transactions, includes state funds. [2]Based on U.S. total, includes territories.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Warranty Insurance

Warranty insurance coverage compensates for the cost of repairing or replacing defective products past the normal warranty period provided by manufacturers.

Warranty Insurance, 2009-2018 ($000)

Year	Net premiums written[1]	Annual percent change	Combined ratio[2]	Annual point change[3]
2009	$1,757,247	-15.8%	97.9	3.6 pts.
2010	1,864,139	6.1	106.4	8.5
2011	1,695,799	-9.0	97.1	-9.3
2012	1,386,404	-18.2	99.5	2.5
2013	1,155,338	-16.7	104.2	4.7
2014	1,020,188	-11.7	93.5	-10.8
2015	1,017,790	-0.2	107.9	14.4
2016	930,240	-8.6	88.8	-19.1
2017	1,090,590	17.2	90.6	1.8
2018	1,247,678	14.4	95.4	4.8

[1]After reinsurance transactions, excludes state funds. [2]After dividends to policyholders. A drop in the combined ratio represents an improvement; an increase represents a deterioration. [3]Calculated from unrounded data.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Chapter 8

Losses

MAJOR CATASTROPHIES: WORLD

World Insurance Losses

According to Aon plc, insured losses from natural catastrophes in 2018 totaled $98 billion, as of September 2019. This amount was down from $147 billion in 2017 but was the fourth-costliest year on record in 2019 dollars. Typhoon Jebi in Japan was the largest insured loss in 2018, which resulted in $12.5 billion in losses. In the United States, Hurricane Michael, with $11 billion in insured losses, ranked second, and the Camp Fire ranked third, with $10 billion in losses. Aon tallied 407 natural disasters in 2018, including 116 flooding events and 112 severe weather events. There were 58 earthquakes and 52 tropical cyclones, with winter weather, droughts, wildfires, European windstorms and other perils accounting for the remaining events.

Natural catastrophe events in 2018 resulted in 10,200 deaths. The top five deadliest natural catastrophes in 2018 occurred in Indonesia and India. The September 28, 2018, earthquake and tsunami in Indonesia caused 2,256 fatalities, the highest number resulting from a 2018 natural catastrophe. A monsoon in India (excluding flooding in Kerala) on August 28 ranked second in fatalities, with 1,100 people killed. An earlier earthquake in North Lombok, Indonesia, claimed 560 lives on August 5, ranking third. A tsunami in Indonesia on December 22 ranked fourth with 437 deaths, and the Kerala floods in India that claimed 324 lives on August 20, ranked fifth.

Top 10 Costliest World Natural Disasters by Insured Losses, 2018[1] (US$ millions)

Rank	Date[2]	Country/region	Event	Insured loss in U.S. dollars
1	Sep. 5	Japan	Typhoon Jebi	$12,500
2	Oct. 12	U.S., Southeast, Mid-Atlantic	Hurricane Michael	11,000
3	Nov. 31	U.S., West	Camp Fire	10,000
4	Sep. 18	U.S., Southeast, Mid-Atlantic, Northeast	Hurricane Florence	5,500
5	Nov. 31	U.S., West	Woolsey Fire	4,200
6	Oct. 1	Japan	Typhoon Trami	3,250
7	Dec. 31	U.S.	Annual drought loss	2,400
8	Jul. 8	Japan	Japan floods	2,250
9	Jan. 18	Western and Central Europe	Windstorm Friederike	2,056
10	Jun. 21	U.S., Rockies, Plains, Midwest, Northeast	Colorado hailstorm	1,750

[1]Natural disasters that cause at least US$25 million in insured losses; or 10 deaths; or 50 people injured; or 2,000 filed claims or homes and structures damaged. Hurricane losses in the United States include National Flood Insurance Program losses. As of September 13, 2019. [2]Date event ended.

Note: Loss data shown here may differ from figures shown elsewhere for the same event due to differences in the date of publication, the geographical area covered and other criteria used by organizations collecting the data.

Source: Aon.

Number Of World Natural Disaster Events By Peril, 2018[1]

Peril	Number of events
Flooding	116
Severe weather[2]	112
Earthquake	58
Tropical cyclone	52
Winter weather	26
Drought	12
Wildfire	11
European windstorm	10
Other	10

[1]Natural disasters that cause at least US$25 million in insured losses; or 10 deaths; or 50 people injured; or 2,000 filed claims or homes and structures damaged. As of September 13, 2019. [2]Includes severe convective storms such as thunderstorms, tornadoes and hailstorms, straight-line winds and flooding that could occur with these storms.

Source: Aon.

Top 10 Costliest World Natural Disasters By Insured Losses, 1900-2018[1] (2019 US$ millions)

Rank	Date[2]	Year	Country/region	Event	Insured loss[3]
1	Aug. 30	2005	U.S., Southeast	Hurricane Katrina	$84,300
2	Mar. 11	2011	Japan	2011 Tohoku Earthquake	39,900
3	Oct. 29	2012	U.S., Caribbean	Hurricane Sandy	33,300
4	Sep. 2	2017	U.S., Southeast	Hurricane Harvey	31,100
5	Sep. 28	2017	U.S., Caribbean	Hurricane Maria	30,700
6	Sep. 12	2017	U.S., Caribbean	Hurricane Irma	29,600
7	Aug. 27	1992	U.S., Bahamas	Hurricane Andrew	28,600
8	Jan. 17	1994	U.S., West	Northridge Earthquake	26,600
9	Sep. 15	2008	U.S., Caribbean	Hurricane Ike	21,300
10	Dec. 15	2011	Thailand	Thailand Floods	17,500

[1]Natural disasters that cause at least US$25 million in insured losses; or 10 deaths; or 50 people injured; or 2,000 filed claims or homes and structures damaged. Losses for hurricanes in the United States include losses for the National Flood Insurance Program. As of September 13, 2019. [2]Date event ended. [3]Adjusted for inflation by Aon using the U.S. Consumer Price Index.

Note: Loss data shown here may differ from figures shown elsewhere for the same event due to differences in the date of publication, the geographical area covered and other criteria used by organizations collecting the data.

Source: Aon.

World Natural Disaster Insured Losses By Peril, 2000-2018[1] (2019 US$ millions)

Peril	Insured loss[2]
Tropical cyclone	$416,800
Severe weather[3]	327,700
Flooding	174,100
Earthquake	101,900
Drought	77,200
Winter weather	59,900
Wildfire	53,800
European windstorm	44,500
Other	1,300

[1]Natural disasters that cause at least US$25 million in insured losses; or 10 deaths; or 50 people injured; or 2,000 filed claims or homes and structures damaged. As of September 13, 2019. [2]Adjusted for inflation by Aon using the U.S. Consumer Price Index. [3]Includes losses from severe convective storms such as thunderstorms, tornadoes and hailstorms, straight-line winds and flooding that could occur with these storms.

Source: Aon.

Top 10 Deadliest World Natural Catastrophes, 2018[1]

Rank	Date	Country	Event	Deaths
1	Sep. 28	Indonesia	Sulawesi earthquake and tsunami	2,256
2	Aug. 28	India	India monsoon; excludes Kerala floods	1,100
3	Aug. 5	Indonesia	North Lombok earthquake	560
4	Dec. 22	Indonesia	Anak Krakatau/Sunda Strait tsunami	437
5	Aug. 20	India	Kerala floods	324
6	Jul. 8	Japan	Japan floods	246
7	May 31	Kenya	Flooding	226
8	Jun. 7	Guatemala	Fuego Volcano eruption	190
9	Jun. 20	Pakistan	Karachi heatwave	180
10	Jul. 25	Japan, South Korea, China	East Asia heatwave	180

[1]Natural disasters that cause at least 10 deaths. As of September 13, 2019.

Source: Aon.

Top 10 Deadliest World Natural Catastrophes, 1950-2019[1]

Rank	Date	Year	Country/region	Event	Deaths
1	Jan. 12	2010	Haiti	Haiti earthquake	316,000
2	Nov. 13	1970	Bangladesh	Bhola cyclone	300,000
3	Jul. 27	1976	China	Tangshan earthquake	242,769
4	Aug. 8	1975	Taiwan, China	Super Typhoon Nina	230,000
5	Dec. 26	2004	Indian Ocean Basin	Indian Ocean earthquake and tsunami	227,899
6	Apr. 29	1991	Bangladesh	Cyclone Gorky	139,000
7	May 3	2008	Myanmar	Cyclone Nargis	138,366
8	Aug. 31	1971	Vietnam	Flooding	100,000
9	Oct. 8	2005	Pakistan	Kashmir earthquake	88,000
10	May 12	2008	China	Sichuan earthquake	87,652

[1]Natural disasters that cause at least 10 deaths. Does not include drought or heatwave events. As of September 13, 2019.
Source: Aon.

Swiss Re collects data on global insured losses resulting from both natural catastrophes and man-made disasters. Besides including man-made disasters, Swiss Re's figures differ from Aon's because Swiss Re uses different collection methods and criteria for classifying events. According to Swiss Re's February 2019 report on global losses, insured losses totaled $85 billion in 2018, down from $144 billion in 2017, the highest annual amount of insured losses since Swiss Re began keeping records. There were 304 disaster events in 2018, 181 of which were natural disasters and 123 were man-made events. Natural disasters accounted for $76 billion in losses, compared with $143 billion in 2017. Man-made disasters accounted for the remaining $9 billion in losses. By region, North America accounted for most of the insured losses in 2018, at about $53 billion, and amounted to almost 63 percent of world insured losses. Most of those losses resulted from wildfires, thunderstorms and hurricanes. In 2018, 13,500 people worldwide perished in natural and man-made disasters. Swiss Re emphasized that large losses from secondary perils have been occurring more frequently. Secondary perils are those that are independent and have a higher frequency when compared to catastrophes such as hurricanes and earthquakes and have low to medium severity; or events that occur as a secondary effect of a primary event, such as tsunami following an earthquake. The Camp Fire of 2018 is classified as a secondary peril loss because the fire wiped out development in a wildland-urban interface area that was previously stricken by drought. Swiss Re says that 60 percent of insured losses in 2018 stemmed from secondary perils.

Top 10 Costliest World Earthquakes And Tsunamis By Insured Losses, 1980-2018[1] (US$ millions)

Rank	Date	Location	Losses when occurred		Fatalities
			Overall	Insured[2]	
1	Mar. 11, 2011	Japan: Aomori, Chiba, Fukushima, Ibaraki, Iwate, Miyagi, Tochigi, Tokyo, Yamagata. Includes tsunami.	$210,000	$40,000	15,880
2	Feb. 22, 2011	New Zealand: Canterbury, Christchurch, Lyttelton	24,000	16,500	185
3	Jan. 17, 1994	USA (CA): Northridge, Los Angeles, San Fernando Valley, Ventura, Orange	44,000	15,300	61
4	Feb. 27, 2010	Chile: Concepcion, Metropolitana, Rancagua, Talca, Temuco, Valparaiso. Includes tsunami.	30,000	8,000	520
5	Sep. 4, 2010	New Zealand: Canterbury, Christchurch, Avonside, Omihi,Timaru, Kaiapoi, Lyttelton	10,000	7,400	0
6	Apr. 14-16, 2016	Japan: Kumamoto, Aso, Chuo Ward, Mashiki, Minamiaso,Oita, Miyazaki, Fukuoka, Yamaguchi	32,000	6,200	205
7	Jan. 17, 1995	Japan: Hyogo, Kobe, Osaka, Kyoto	100,000	3,000	6,430
8	Nov. 13, 2016	New Zealand: Canterbury, Kaikoura, Waiau, Wellington, Marlborough, Picton	3,900	2,100	2
9	Jun. 13, 2011	New Zealand: Canterbury, Christchurch, Lyttelton	2,700	2,100	1
10	Sep. 19, 2017	Mexico: Puebla, Morelos, Greater Mexico City	6,000	2,000	369

[1]Data through 2017 as of January 2018. Ranked on insured losses when occurred. Updated to 2018 by the Insurance Information Institute using Munich Re's NatCatSERVICE online tool. [2]Based on property losses including, if applicable, agricultural, offshore, marine, aviation and National Flood Insurance Program losses in the United States and may differ from data shown elsewhere.

Source: © 2018 Munich Re, Geo Risks Research, NatCatSERVICE; Wikipedia.

MAJOR CATASTROPHES: UNITED STATES

Property Claim Services (PCS®), a Verisk Analytics® business, defines a catastrophe as a natural or man-made event that causes $25 million or more in insured property losses and affects a significant number of property/casualty (P/C) policyholders and insurers. PCS estimates represent anticipated insured losses from catastrophes on an industrywide basis, reflecting insurance payments before salvage, subrogation or reinsurance for personal and commercial property lines of insurance covering fixed property, vehicles, boats, related-property items, business interruption and additional living expenses. PCS estimates do not include loss adjustment expenses. P/C insurance industry catastrophe losses in the United States in 2018 dropped by about half (53 percent) to $49.5 billion in 2018 from $105.7 billion in 2017, according to PCS. Insured losses in 2017 were the highest since PCS began collecting insured loss data in 1949. The number of catastrophes rose to 55 in 2018 from 46 in 2017. The number of catastrophes in 2018 was the highest number of catastrophes in any year with $25 million or more in insured losses.

Munich Re estimates shown below are for natural catastrophes only.

Natural Catastrophe Losses In The United States, 2018[1] ($ billions)

Event	Number of events[2]	Fatalities	Overall losses	Insured losses[3]
Wildfire, heat waves, and drought	16	107	$25.4	$18.0
Tropical cyclone	5	107	30.4	15.6
Severe thunderstorm	56	66	18.8	14.1
Winter storms and cold waves	9	26	4.2	3.0
Flood, flash flood	20	49	2.6	1.2
Earthquake and geophysical	2	0	0.5	0.4
Total	**108**	**355**	**$81.9**	**$52.3**

[1]As of March, 2019. [2]Events that have caused at least one fatality or losses of $3 million or more. [3]Sourced from Property Claim Services based on property losses including, if applicable, agricultural, offshore, marine, aviation and National Flood Insurance Program losses; may differ from data shown elsewhere.

Source: © 2019 Munich Re, NatCatSERVICE, Property Claim Services®, a unit of ISO®, a Verisk Analytics® business.

Catastrophes By Quarter, 2018[1] ($ millions)

Quarter	Estimated insured losses	Number of catastrophes
1	$4,577	7
2	9,303	21
3	9,861	18
4	23,722	9
Full year	**$47,462**	**55**

[1]Includes catastrophes causing insured property losses of at least $25 million and affecting a significant number of policyholders and insurers. Excludes losses covered by the federally administered National Flood Insurance Program.

Source: The Property Claim Services® (PCS®) unit of ISO®, a Verisk Analytics® company.

Top Seven States By Insured Catastrophe Losses, 2018[1] ($ millions)

Rank	State	Estimated insured loss	Number of claims
1	California	$15,094.9	87,050
2	Florida	7,860.6	202,000
3	North Carolina	4,962.1	433,775
4	Colorado	3,931.7	390,150
5	Texas	3,028.3	351,850
6	Georgia	2,150.9	166,150
7	Alabama	1,133.5	60,700

[1]Includes catastrophes causing insured property losses of at least $25 million and affecting a significant number of policyholders and insurers. Excludes losses covered by the federally administered National Flood Insurance Program.

Source: The Property Claim Services® (PCS®) unit of ISO®, a Verisk Analytics® company.

Estimated Insured Property Losses, U.S. Catastrophes, 2009-2018[1]

Year	Number of catastrophes	Number of claims (millions)	Dollars when occurred ($ billions)	In 2018 dollars[2] ($ billions)
2009	27	2.2	$10.5	$12.3
2010	33	2.4	14.3	16.4
2011	30	4.9	33.6	37.8
2012	26	4.0	35.0	38.6
2013	28	1.8	12.9	14.0
2014	31	2.1	15.5	16.5
2015	39	2.0	15.2	16.0
2016	42	3.0	21.7	22.6
2017	46	5.3	105.7	108.2
2018	55	3.0	49.5	49.5

[1]Includes catastrophes causing insured property losses of at least $25 million in 1997 dollars and affecting a significant number of policyholders and insurers. Excludes losses covered by the federally administered National Flood Insurance Program. As of November 20, 2019. [2]Adjusted for inflation through 2018 by the Insurance Information Institute using the GDP implicit price deflator.

Source: Property Claim Services® (PCS®), a unit of ISO®, a Verisk Analytics® company; Bureau of Economic Analysis.

The chart below shows insured losses for the top 10 U.S. catastrophes in dollars when they occurred and in 2018 dollars, adjusted for inflation. Insured losses for the catastrophic hurricanes of 2017—Maria, Irma and Harvey—are represented as a range because factors such as the severity of the losses and the fact that the storms happened in rapid succession—which strained resources in the claim settlement process—have hindered the development of final estimates. The amount of insured losses for Irma in Florida are still to be determined; claims have been reopened, and business interruption losses for all three storms are still being settled. The Insurance Information Institute has developed the ranges after studying estimates from catastrophe modelers and other organizations. Losses for one event in 2018—Hurricane Michael—is included in the chart with losses represented by a range as claims remain open.

Top 10 Costliest Catastrophes, United States[1] ($ millions)

Rank	Date	Peril	Location	Estimated insured property loss	
				Dollars when occurred	In 2018 dollars[2]
1	Aug. 2005	Hurricane Katrina	AL, FL, GA, LA, MS, TN	$41,100	$51,882
2	Sep. 2017	Hurricane Maria[3]	PR, USVI	25,000-30,000	25,600-30,700
3	Sep. 2017	Hurricane Irma[3]	AL, FL, GA, NC, PR, SC, USVI	22,000-27,000	22,500-27,600
4	Aug. 2017	Hurricane Harvey[3]	AL, LA, MS, NC, TN, TX	18,000-20,000	18,400-20,400
5	Sep. 2001	September 11: Fire, Explosion: World Trade Center, Pentagon terrorist attacks	NY, VA	18,779	25,958
6	Oct. 2012	Hurricane Sandy	CT, DC, DE, MA, MD, ME, NC, NH, NJ, NY, OH, PA, RI, VA, VT, WV	18,750	20,688
7	Aug. 1992	Hurricane Andrew	FL, LA	15,500	25,404
8	Jan. 1994	Northridge, CA earthquake	CA	12,500	19,595
9	Sep. 2008	Hurricane Ike	AR, IL, IN, KY, LA, MO, OH, PA, TX	12,500	14,631
10	Oct. 2018	Hurricane Michael[3]	AL, FL, GA, MD, NC, SC, VA	8,000-13,000	8,000-13,000

[1]Property losses only. Excludes flood damage covered by the federally administered National Flood Insurance Program. Ranked on dollars when occurred. As of November 20, 2019. [2]Adjusted for inflation through 2018 by the Insurance Information Institute using the GDP implicit price deflator. [3]Insurance Information Institute estimate based on data from catastrophe risk modelers, reinsurance companies, the Property Claims Services unit of Verisk Analytics, the Federal Emergency Management Agency of the U.S. Department of Homeland Security, and the Florida Office of Insurance Regulation. These estimates are preliminary because the organizations involved periodically resurvey the events, and the severity of losses and other factors create a high level of uncertainty surrounding the ultimate loss figures.

Source: Insurance Information Institute, catastrophe risk modelers, reinsurance companies, U.S. Department of Homeland Security, the Florida Office of Insurance Regulation, the Property Claim Services® (PCS®) unit of ISO®, a Verisk Analytics® company, and the U.S. Bureau of Economic Analysis.

U.S. NATURAL CATASTROPHES: HURRICANES

A tropical cyclone is a rotating low-pressure weather system that has organized thunderstorms but no fronts, according to the National Oceanic and Atmospheric Administration. Hurricanes are tropical cyclones whose sustained winds have reached 74 mph. At this point the hurricane reaches category 1 on the Saffir-Simpson Hurricane Wind Scale, which has a range of 1 to 5, based on the hurricane's intensity at the time of landfall at the location experiencing the strongest winds. The scale provides examples of the type of damage and impacts in the United States associated with winds of the indicated intensity. It does not address the potential for other hurricane-related phenomena such as storm surge, rainfall-induced floods and tornadoes.

The Saffir-Simpson Hurricane Wind Scale

Category[1]	Sustained wind speed (mph)	Wind damage	Historical example
1	74-95	Very dangerous winds will produce some damage	Hurricane Dolly, 2008, South Padre Island, Texas
2	96-110	Extremely dangerous winds will cause extensive damage	Hurricane Frances, 2004, Port St. Lucie, Florida
3	111-129	Devastating damage will occur	Hurricane Ivan, 2004, Gulf Shores, Alabama
4	130-156	Catastrophic damage will occur	Hurricane Charley, 2004, Punta Gorda, Florida
5	157 or higher	Catastrophic damage will occur	Hurricane Andrew, 1992, Cutler Ridge, Florida

[1]Category 3 or higher storms are classified as "major."
Source: U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Hurricane Center.

Insured losses from hurricanes rose in the past 15 years as hurricane activity has intensified. When adjusted for inflation and after losses are tallied for the 2017 and 2018 hurricanes, nine of the 10 costliest hurricanes in U.S. history have struck since 2004. In addition to the increase in storm activity, construction along both the Gulf Coast and East Coast has continued to develop, and property values have increased, resulting in higher loss exposure.

2019 Hurricane Season

The 2019 season yielded 18 named storms, six of which became hurricanes, including three major ones (Category 3 or higher, with maximum sustained winds of at least 111 mph). A typical year has 12 named storms, six hurricanes, and three major hurricanes. Barry became a tropical storm on July 11 in the Gulf of Mexico and strengthened to Category 1 hurricane status on July 13 as it moved toward the Louisiana coast. It made landfall later that day near Intracoastal City, Louisiana as a tropical storm, bringing heavy rain and wind to the north central Gulf Coast, and remained over Louisiana as it weakened into a tropical depression on July 14. Other areas impacted were the Mississippi River Valley and the southeastern states of Alabama, Florida and Mississippi.

Dorian became a tropical storm on August 24 and strengthened to hurricane status on August 28 near St. Thomas, U.S. Virgin Islands. By August 30, Dorian had strengthened to a Category 4 storm and became an historic Category 5 storm on September 1 as it made landfall over the Abaco Islands in the Bahamas and later on Grand Bahama Island. Dorian continued to pound the Bahamas into September 3 with devastating wind, rain and storm surge. Insured losses resulting from Hurricane Dorian in the Caribbean are expected to be near $2 billion.

Dorian weakened to Category 3 and moved close to Florida's east coast by September 4 bringing storm surge resulting in beach erosion and flooding, and later affecting South and North Carolina. On September 6 Dorian weakened to a Category 1 storm and made landfall at Cape Hatteras, North Carolina, bringing wind, storm surge and flooding to North Carolina and Virginia on its way to New England. Dorian made landfall over Nova Scotia on September 7 as a Category 1 hurricane. Catastrophe modelers estimate industry insured losses in the United States from Dorian to total between $500 million and $1.6 billion. This range includes reinsurance and NFIP losses.

Humberto formed near the northwestern Bahamas and became a tropical storm on September 14 and became a hurricane on September 15 southwest of Bermuda and peaked at Category 3 as it approached the island on September 16. As a post-tropical storm Humberto produced large swells and rip tides along the east coast of the United States. Tropical Storm Imelda brought an estimated 16 to 24 inches of rain to Beaumont and Houston, Texas and heavy rain over a large section between southwestern Louisiana and Texas by September 20. Hurricane Jerry formed around the same time, becoming a hurricane on September 19. Hurricane Lorenzo became a Category 5 hurricane in the central subtropical Atlantic—the farthest east Category 5 Atlantic hurricane on record. It generated 49-foot waves, with an occasional rogue wave nearing 100 feet, sending swells to both sides of the Atlantic.

2018 and 2017 Hurricane Season

2018: During the 2018 Atlantic hurricane season 15 named storms formed. Eight of those storms became hurricanes and two of those, Florence and Michael, became major storms, Category 3 and above. Florence, the third hurricane of the season, reached Category 4 status as a slow-moving storm that brought hurricane-force winds, life-threatening storm surge, and freshwater flooding. Florence made landfall along the southeastern coast of North Carolina as a Category 1 storm and brought significant storm surge flooding to portions of eastern North Carolina. It produced rainfall that exceeded 20 inches along the North and South Carolina border, and in some parts of North Carolina exceeded 30 inches, a state record. The previous record was 24 inches caused by Hurricane Floyd in 1999. In South Carolina a new record was reached when rainfall reached almost 24 inches. Florence directly caused 22 deaths in the United States, including 15 in North Carolina, 4 in South Carolina and 3 in Virginia, according to the National Hurricane Center (NHC). Catastrophe modelers have estimated that insured losses from Hurricane Florence would range from $2.0 billion to $5.5 billion, excluding National Flood Insurance Program losses.

Hurricane Michael became a strong Category 5 storm on October 10 and made landfall near Mexico Beach, Florida, in the Florida Panhandle. Hurricane Michael was the strongest hurricane ever to hit the Florida Panhandle and the second known Category 5 landfall on the northern Gulf Coast, according to the National Oceanic and Atmospheric Administration. It was the first Category 5 storm to make landfall in the United States, after Hurricane Andrew in 1992. Michael caused 16 deaths in the United States: seven in Florida, five in Virginia, three in North Carolina and one in Georgia. As of October 25, 2019, the Florida Office of Insurance Regulation reported that insured losses from Michael in Florida had reached $7.44 billion, comprised of residential and commercial property, private flood and business interruption insurance, and miscellaneous coverages. There were 149,773 claims made through October 25, with 89.4 percent of those claims closed. About 16,000 claims remained open. Loss estimates are not yet available from the Property Claims Services (PCS) unit of ISO. The Insurance Information Institute estimates that insured losses from Hurricane Michael totaled between $8 billion and $13 billion in dollars when it occurred, making it the eighth-costliest hurricane to hit the United States, excluding flood damage covered by the federally administered National Flood Insurance Program (NFIP).

2017: The Atlantic hurricane season of 2017 broke several records, as 17 tropical storms formed, with 10 of them becoming hurricanes. Six hurricanes became major storms, Category 3 and above—Harvey, Irma, Jose, Lee, Maria and Ophelia. Two hurricanes, Irma and Maria, reached Category 5 strength. The 2017 Atlantic hurricane season was the first time three Category 4 hurricanes—Harvey, Irma and Maria—made landfall in the United States and its territories in

one year, according to the Insurance Information Institute (I.I.I.).

On August 25 Hurricane Harvey made landfall in Texas as a Category 4 storm. Harvey was the first major hurricane to hit the U.S. mainland since Hurricane Wilma in 2005, and the first Category 4 hurricane to affect Texas since Hurricane Carla in 1961. The last time a hurricane made landfall in Texas was in 2008 when Hurricane Ike, a Category 2 storm, struck the state. Hurricane Harvey dropped about 50 inches of rain in portions of the Greater Houston area and the upper Texas coast, breaking records. On August 30 Harvey made landfall west of Cameron, Louisiana, as a tropical storm. With at least 68 direct deaths reported in Texas, Harvey was the deadliest U.S. hurricane since superstorm Sandy in 2012, and the deadliest to hit Texas since 1919, according to the National Oceanic and Atmospheric Administration (NOAA). Loss estimates are not yet available from the Property Claims Services (PCS) unit of ISO. The Insurance Information Institute estimates that insured losses from Hurricane Harvey totaled between $18 billion and $20 billion in dollars when it occurred, making it the fourth-costliest hurricane to hit the United States, excluding flood damage covered by the federally administered National Flood Insurance Program (NFIP).

Hurricane Irma made landfall in the Lower Florida Keys as a Category 4 hurricane on September 10, and a second landfall in Florida on Marco Island as a Category 3 hurricane. Hurricane Irma was one of the most powerful and costliest hurricanes in the Atlantic Basin, and the first major hurricane to make landfall in Florida since Hurricane Wilma in 2005. At its peak it was a Category 5 storm and was the strongest hurricane to make landfall in the U.S. since Katrina in 2005. According to NOAA Irma brought record storm surge to parts of the Southeast coast, including Jacksonville, Florida, with significant coastal flooding extending into the Carolinas. Irma caused 10 direct deaths in the United States, three in the U.S. Virgin Islands, and the remainder on mainland United States, according to NOAA. Loss estimates are not yet available from the Property Claims Services (PCS) unit of ISO. The Insurance Information Institute estimates that insured losses from Hurricane Irma totaled between $22 billion and $27 billion in dollars when it occurred. By late 2019 claims were still being closed, some of which had been reopened, and insurers were still dealing with assignment of benefit claims (see Chapter 9, Litigiousness).

Maria became a Category 5 hurricane on September 18 and made landfall as a Category 4 hurricane in Puerto Rico. Maria was the strongest hurricane to make landfall in Puerto Rico since a Category 5 hurricane hit the island in 1928. Maria caused 65 official direct deaths and catastrophic damage to much of the island and up to 37 inches of rain, with widespread flooding and mudslides, according to NOAA. The government of Puerto Rico later estimated that the number of deaths was 1,427, due to delayed or interrupted health care, and raised that tally to 2,975 after a study was conducted by George Washington University. Loss estimates are not yet available from the Property Claims Services (PCS) unit of ISO. The I.I.I. estimates that insured losses from Hurricane Maria totaled between $25 billion and $30 billion in dollars when it occurred. Hurricane Maria was the second-costliest hurricane to hit the United States, excluding flood damage covered by the federally administered NFIP, and was surpassed only by Hurricane Katrina, which caused about $52 billion in insured losses in 2018 dollars.

The chart below shows insured losses for the top 10 costliest hurricanes in the United States in dollars when they occurred and in 2018 dollars, adjusted for inflation. Insured losses for the catastrophic hurricanes of 2017—Maria, Irma and Harvey—are represented as a range because factors such as the severity of the losses and the fact that the storms happened in rapid succession, straining resources for the claim settlement process, have hindered the development of final estimates. The amount of insured losses for Irma in Florida are still to be determined; claims have been reopened, and business interruption losses for all three storms are still being settled. The Insurance Information Institute has developed the ranges after studying estimates from catastrophe modelers and other organizations. One hurricane in 2018—Michael—was the eighth-costliest hurricane to hit the United States. Losses from Hurricane Michael are also represented by a range.

Top 10 Costliest Hurricanes In The United States[1] ($ millions)

Rank	Date	Location	Hurricane	Estimated insured losses[2]	
				Dollars when occurred	In 2018 dollars[3]
1	Aug. 25-30, 2005	AL, FL, GA, LA, MS, TN	Hurricane Katrina	$41,100	$51,882
2	Sep. 19-22, 2017	PR, USVI	Hurricane Maria[3]	25,000-30,000	25,600-30,700
3	Sep. 6-12, 2017	AL, FL, GA, NC, PR, SC, UV	Hurricane Irma[3]	22,000-27,000	22,500-27,600
4	Aug. 25-Sep. 1, 2017	AL, LA, MS, NC, TN, TX	Hurricane Harvey[3]	18,000-20,000	18,400-20,400
5	Oct. 28-31, 2012	CT, DC, DE, MA, MD, ME, NC, NH, NJ, NY, OH, PA, RI, VA, VT, WV	Hurricane Sandy	18,750	20,688
6	Aug. 24-26, 1992	FL, LA	Hurricane Andrew	15,500	25,404
7	Sep. 12-14, 2008	AR, IL, IN, KY, LA, MO, OH, PA, TX	Hurricane Ike	12,500	14,631
8	Oct. 10-12, 2018	AL, FL, GA, MD, NC, SC, VA	Hurricane Michael[3]	8,000-13,000	8,000-13,000
9	Oct. 24, 2005	FL	Hurricane Wilma	10,300	13,002
10	Aug. 13-14, 2004	FL, NC, SC	Hurricane Charley	7,475	9,729

[1]Property losses only. Excludes flood damage covered by the federally administered National Flood Insurance Program. Ranked on dollars when occurred. As of November 20, 2019. [2]Adjusted for inflation through 2018 by the Insurance Information Institute using the GDP implicit price deflator. [3]Insurance Information Institute estimate based on data from catastrophe risk modelers, reinsurance companies, the Property Claims Services unit of Verisk Analytics, the Federal Emergency Management Agency of the U.S. Department of Homeland Security, and the Florida Office of Insurance Regulation. These estimates are preliminary because the organizations involved periodically resurvey the events, and the severity of losses and other factors create a high level of uncertainty surrounding the ultimate loss figures.

Source: Insurance Information Institute, catastrophe risk modelers, reinsurance companies, U.S. Department of Homeland Security, the Florida Office of Insurance Regulation, the Property Claim Services® (PCS®) unit of ISO®, a Verisk Analytics® company, and the U.S. Bureau of Economic Analysis.

The following chart from AIR Worldwide estimates insured property losses from the top 10 historical hurricanes, if they were to hit the nation again today with the same meteorological parameters.

Estimated Insured Losses For The Top 10 Historical Hurricanes Based On Current Exposures[1] ($ billions)

Rank	Date	Event	Category	2017 Insured loss
1	Sep. 18, 1926	Great Miami Hurricane	4	$128
2	Sep. 17, 1928	Okeechobee Hurricane	4	78
3	Aug. 29, 2005	Hurricane Katrina	3[2]	64
4	Sep. 17, 1947	1947 Fort Lauderdale Hurricane	4	62
5	Sep. 9, 1965	Hurricane Betsy	4[2]	57
6	Aug. 24, 1992	Hurricane Andrew	5	56
7	Sep. 10, 1960	Hurricane Donna	4	50
8	Sep. 21, 1938	The Great New England Hurricane	3	50
9	Sep. 9, 1900	1900 Galveston Hurricane	4	49
10	Aug. 17, 1915	1915 Galveston Hurricane	3	25

[1]Modeled loss to property, contents and business interruption and additional living expenses for residential, mobile home, commercial and auto exposures as of end-2016. Losses include demand surge and account for storm surge. [2]Strength at second landfall in Louisiana.

Source: AIR Worldwide Corporation.

Hurricanes And Related Deaths In The United States, 1999-2018

Year	Total hurricanes[1]	Made landfall as hurricane in the U.S.	Deaths[2]
1999	8	2	60
2000	8	0	4
2001	9	0	42
2002	4	1	5
2003	7	2	24
2004	9	6[3]	59
2005	15	7	1,518
2006	5	0	0
2007	6	1	1
2008	8	4[4]	41
2009	3	1[5]	6
2010	12	0	11
2011	7	1	44
2012	10	1[6]	83
2013	2	0	1
2014	6	1	2
2015	4	0	3
2016	7	3	36
2017	10	4	147
2018	8	2	48

[1]Atlantic Basin. [2]Direct and indirect deaths, includes fatalities from high winds of less than hurricane force from tropical storms. [3]One hurricane (Alex) is considered a strike but not technically a landfall. [4]Includes one hurricane (Hanna) which made landfall as a tropical storm. [5]Hurricane Ida, which made landfall as a tropical storm. [6]Excludes Hurricane Sandy, which made landfall as a post-tropical storm.

Source: Insurance Information Institute from data supplied by the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Hurricane Center.

Top 10 Deadliest Mainland U.S. Hurricanes[1]

Rank	Year	Hurricane/location	Category	Deaths
1	1900	Texas (Galveston)	4	8,000[2]
2	1928	Florida (Southeast; Lake Okeechobee)	4	2,500[3]
3	2005	Hurricane Katrina (Southeast Louisiana; Mississippi)	3	1,200
4	1893	Louisiana (Cheniere Caminanda)	4	1,100-1,400[4]
5	1893	South Carolina; Georgia (Sea Islands)	3	1,000-2,000
6	1881	Georgia; South Carolina	2	700
7	1957	Hurricane Audrey (Southwest Louisiana; North Texas)	4	416
8	1935	Florida (Keys)	5	408
9	1856	Louisiana (Last Island)	4	400
10	1926	Florida (Miami, Pensacola); Mississippi; Alabama	4	372

[1]Direct deaths, based on a National Hurricane Center analysis of mainland tropical cyclones from 1851-2010. [2]Could be as high as 12,000. [3]Could be as high as 3,000. [4]Total including offshore deaths is near 2,000.

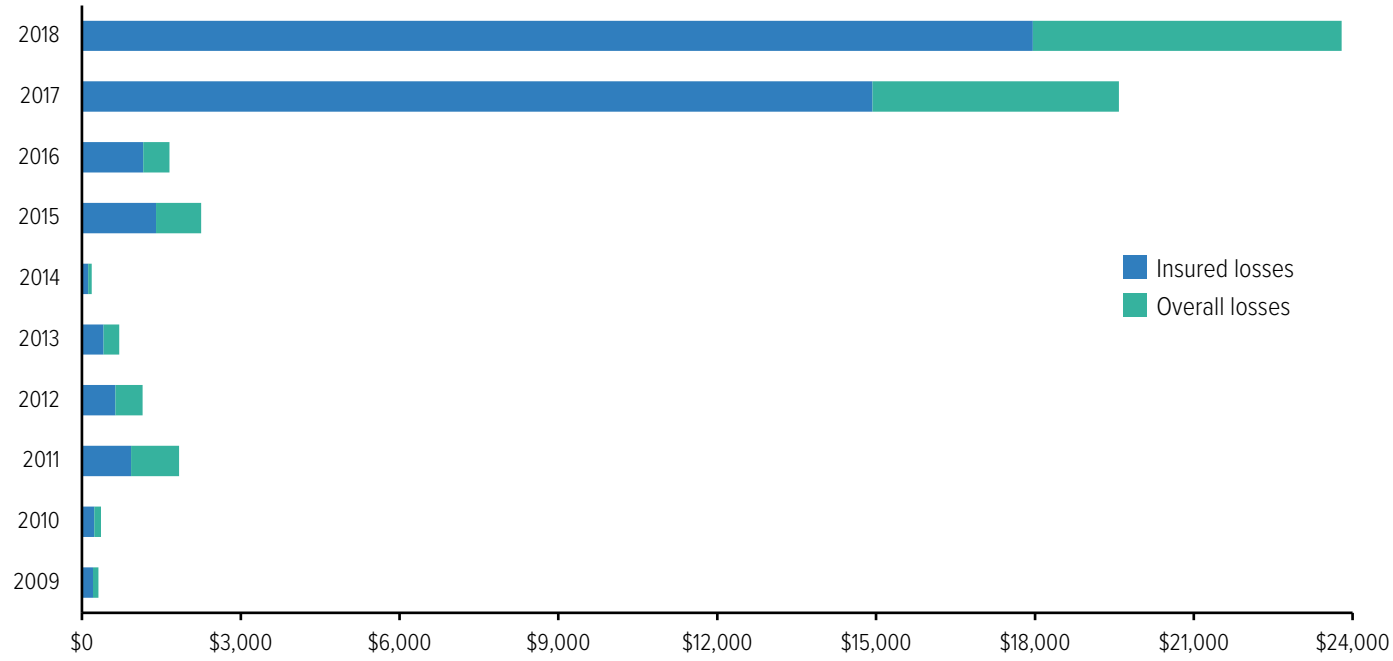
Source: U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Hurricane Center.

U.S. NATURAL CATASTROPHES: WILDFIRES

Fire plays an important role in the life of a forest, clearing away dead wood and undergrowth to make way for younger trees. But for much of the last century, fire-suppression policies have sought to extinguish wildfires as quickly as possible to preserve timber and real estate. This approach has led to the accumulation of brush and other vegetation that is easily ignited and serves as fuel for wildfires.

Most of the large fires with significant property damage have occurred in California, where some of the fastest developing counties are in forest areas that were once largely uninhabited. These areas, known as the Wildland-Urban Interface (WUI), contained about a third of all housing units in the United States in 2017, according to the U.S. Forest Service. Fast-growing areas with moderate to high wildland fire potential range from parts of the South to large parts of the West. Rising temperatures and more intense droughts are also believed to contribute to large, destructive blazes. Warmer weather contributes to wildfire conditions in many ways: dryer and more combustible vegetation, more frequent lightning strikes, an extended fire season, more intense winds and earlier spring snowmelt in mountainous areas leading to dry vegetation earlier in the wildfire season. A typical wildfire season would run from mid-summer to early autumn, but with these changing conditions wildfires are becoming a year-round occurrence.

Wildfire Lossses In The United States, 2009-2018[1] (2018 $ millions)



[1]Adjusted for inflation by Munich Re based on the Consumer Price Index.
Source: © 2019 Munich Re, NatCatSERVICE.

2017-2019 Wildfires

2019: From January 1 to November 22, 2019, there were 46,706 wildfires compared with 52,080 wildfires in the same period in 2018, according to the National Interagency Fire Center (NIFC). About 4.6 million acres were burned in the 2019 period, compared with 8.5 million acres in 2018. In late October significant fires broke out throughout California, leading to the evacuation of over 200,000 people and the declaration of a state of emergency. The Kincade Fire in Sonoma County ignited on October 23, and burned about 78,000 acres—an area more than twice the size of the city

of San Francisco. According to CalFire, 374 buildings have been destroyed, and 60 more were damaged. The Getty Fire in Los Angeles broke out on October 28, fueled by strong Santa Ana winds, with wind gusts up to 80 miles an hour. The Ranch fire, ignited November 3, burned 4,000 acres.

2018: In 2018 there were 58,083 wildfires, compared with 71,499 wildfires in 2017, according to the NIFC. About 8.8 million acres were burned in 2018, compared with 10 million in 2017. The Mendocino Complex Fire broke out on July 27 in Northern California and grew to be the largest fire in state history, with 459,123 acres burned. The Carr Fire, which broke out on July 23 in Northern California, is the eighth most destructive fire in the state's history. Eight fatalities are attributed to the fire, and 1,614 structures were destroyed. Loss estimates are not yet available from the Property Claims Services (PCS) unit of ISO. The Insurance Information Institute (I.I.I.) estimates that insured losses from the Carr Fire totaled between $1 billion and $1.5 billion in dollars when it occurred. According to the California Department of Insurance (Cal DOI), the Mendocino Complex and Carr Fires collectively resulted in 8,900 homes, 329 businesses, 800 private autos, commercial vehicles, and other types of property damaged or destroyed. More than 10,000 claims were filed.

The Camp Fire broke out in Butte County, Northern California on November 8 and became the deadliest and most destructive fire on record in the state. According to Cal Fire statistics 85 people perished. About 153,000 acres were burned and 18,800 structures were destroyed. The fire burned approximately 14,000 residences and about 530 commercial structures. The remainder were minor structures. Loss estimates are not yet available from the Property Claims Services (PCS) unit of ISO. The I.I.I. estimates that insured losses from the Camp Fire totaled between $8.5 billion and $10.5 billion in dollars when it occurred.

The Hill and Woolsey Fires started on November 8. The Woolsey Fire burned about 97,000 acres, according to Cal Fire. It destroyed about 1,600 structures and killed three people. Loss estimates are not yet available from the Property Claims Services (PCS) unit of ISO. The I.I.I. estimates that insured losses from the Woolsey Fire totaled between $3 billion and $5 billion in dollars when it occurred. The Hill Fire burned about 4,500 acres and destroyed four structures. Cal DOI said that as of April 2019 insurance claims from the Camp, Hill and Woolsey Fires in November 2018 were already over $12 billion.

2017: In 2017 there were 71,499 wildfires, compared to 65,575 wildfires in 2016, according to the NIFC. About 10 million acres were burned in 2017, compared with 5.4 million in 2016. The number of acres burned in 2017 was higher than the 10-year average. From October 6 to October 25, eight counties in Northern California were hit by a devastating wildfire outbreak that caused at least 23 fatalities, burned 245,000 acres and destroyed more than 8,700 structures.

In December five major fires in Southern California destroyed more than a thousand homes and buildings. One of the fires, the Thomas Fire, became the largest wildfire ever recorded in California up to 2017. In 2018 the Mendocino Complex Fire grew to surpass the acreage burned in the Thomas Fire. Loss estimates are not yet available from the Property Claims Services (PCS) unit of ISO. The I.I.I. estimates that insured losses from the Tubbs Fire totaled between $7.5 billion and $9.7 billion in dollars when it occurred. The Atlas Fire resulted in insured losses of $2.5 billion to $4.5 billion and the Thomas Fire resulted in insured losses of $1.5 billion to $3.5 billion, according to the I.I.I. The blazes were the costliest wildfires in the United States up to 2017. Cal DOI reported in January 2018 that insurance claims payouts from the October to December fires added up to almost $12 billion, which made the 2017 fire season the costliest on record; however preliminary estimates for 2018 indicate that it most likely surpassed the 2017 record.

Top 10 States For Wildfires Ranked By Number Of Fires And By Number Of Acres Burned, 2018

Rank	State	Number of fires
1	Texas	10,541
2	California	8,054
3	North Carolina	3,625
4	Georgia	2,572
5	Florida	2,249
6	Oregon	2,019
7	Arizona	2,000
8	Washington	1,743
9	Oklahoma	1,707
10	Minnesota	1,344

Rank	State	Number of acres burned
1	California	1,823,153
2	Nevada	1,001,966
3	Oregon	897,263
4	Oklahoma	745,097
5	Idaho	604,481
6	Texas	569,811
7	Colorado	475,803
8	Utah	438,983
9	Washington	438,834
10	Alaska	410,683

Source: National Interagency Fire Center.

Top 10 Costliest Wildland Fires In The United States[1] ($ millions)

Rank	Date	Name, Location	Estimated insured loss	
			Dollars when occurred	In 2018 dollars[2]
1	Nov. 8-25, 2018	Camp Fire, CA[3]	$8,500-$10,500	$8,500-$10,500
2	Oct. 8-20, 2017	Tubbs Fire, CA[3]	7,500-9,700	7,700-9,900
3	Nov. 8-22, 2018	Woolsey Fire, CA[3]	3,000-5,000	3,000-5,000
4	Oct. 8-20, 2017	Atlas Fire, CA[3]	2,500-4,500	2,600-4,600
5	Dec 4-23, 2017	Thomas Fire, CA[3]	1,500-3,500	1,530-3,600
6	Oct. 20-21, 1991	Oakland Hills Fire, CA	1,700	2,851
7	Oct. 21-24, 2007	Witch Fire, CA	1,300	1,552
8	Jul. 23-Aug. 30, 2018	Carr Fire, CA[3]	1,000-1,500	1,000-1,500
9	Oct. 25-Nov. 4, 2003	Cedar Fire, CA	1,060	1,417
10	Oct. 25-Nov. 3, 2003	Old Fire, CA	975	1,304

[1]Property losses only for catastrophic fires. Effective January 1, 1997, ISO's Property Claim Services (PCS) unit defines catastrophes as events that cause more than $25 million in insured property damage and that affect a significant number of insureds and insurers. From 1982 to 1996, PCS used a $5 million threshold in defining catastrophes. Ranked on dollars when occurred. As of November 20, 2019. [2]Adjusted for inflation through 2018 by the Insurance Information Institute using the GDP implicit price deflator. [3]Insurance Information Institute estimate based on data from catastrophe risk modelers, reinsurance companies, the California Deparment of Insurance, and the Property Claims Services unit of Verisk Analytics. These estimates are preliminary because the organizations involved periodically resurvey the events, and the severity of losses and other factors create a high level of uncertainty surrounding the ultimate loss figures.

Source: Insurance Information Institute, catastrophe risk modelers, reinsurance companies, the California Department of Insurance, the Property Claim Services® (PCS®) unit of ISO®, a Verisk Analytics® company, and the U.S. Bureau of Economic Analysis.

In response to the soaring cost of wildfires in 2018, which could add up to over $18 billion when all losses are tallied, California enacted legislation to form a $21 billion wildfire insurance fund designed to cover California utility companies for some of the losses they could incur when they pay victims of fires that their equipment caused. In May 2019 the California Department of Forestry and Fire Protection (CalFire) announced that the Camp Fire—the deadliest and costliest wildfire in U.S. history—was caused by electrical transmission lines owned by Pacific Gas and Electric (PG&E). The fund would prevent the state from having to bail out utilities facing bankruptcy, removing the burden from taxpayers. The California Earthquake Authority (CEA), which currently purchases reinsurance for earthquakes that occur in the state, will handle administrative responsibility for the fund. Utilities will contribute to the fund, while the state will raise 50 percent of the $21 billion via bond sales. According to Artemis, the fund could operate as a risk pool where electric utility exposure could be handled by insurance, reinsurance or insurance-linked securities. By the end of July 2019, all three of California's utilities had agreed to join and commit funds to the plan.

Wildfire Exposure

FireLine®, Verisk's wildfire risk management tool, assesses wildfire risk at the address level using advanced remote sensing and digital mapping technology. The three primary factors considered in analyzing wildfire risk are distribution of vegetative fuel, steepness of slope and degree of access for firefighting equipment. FireLine assigns a wildfire hazard score for each factor plus a cumulative score, on a scale from negligible to extreme risk. The following chart ranks the most wildfire-prone western U.S. states by high to extreme wildfire risk as of 2019. According to Verisk estimates, more than 4.5 million U.S. properties are at high to extreme wildfire risk.

Top 10 States At High To Extreme Wildfire Risk, 2019[1]

Rank	State	Estimated number of properties at risk
1	California	2,019,800
2	Texas	717,800
3	Colorado	371,100
4	Arizona	237,900
5	Idaho	175,000
6	Washington	160,500
7	Oklahoma	153,400
8	Oregon	151,400
9	Montana	137,800
10	Utah	136,000

Rank	State	Percent of properties at risk
1	Montana	29%
2	Idaho	26
3	Colorado	17
4	California	15
5	New Mexico	15
6	Utah	14
7	Wyoming	14
8	Oklahoma	9
9	Oregon	9
10	Arizona	8

[1]As of September 2019.
Source: Verisk Wildfire Risk Analytics used data from FireLine®, Verisk's wildfire risk management tool.

U.S. NATURAL CATASTROPHES: TORNADOES

A tornado is a violently rotating column of air that extends from a thunderstorm and comes into contact with the ground, according to the National Oceanic and Atmospheric Administration (NOAA) and in an average year, about 1,000 tornadoes are reported nationwide. Tornado intensity is measured by the Enhanced Fujita (EF) scale. The scale rates tornadoes on a scale of 0 through 5, based on the amount and type of wind damage. It incorporates 28 different *damage indicators*, based on damage to a wide variety of structures ranging from trees to shopping malls.

The Fujita Scale For Tornadoes

Category	Damage	Original F scale[1] Wind speed (mph)	Enhanced F scale[2] 3-second gust (mph)
F-0	Light	40-72	65-85
F-1	Moderate	73-112	86-110
F-2	Considerable	113-157	111-135
F-3	Severe	158-207	136-165
F-4	Devastating	208-260	166-200
F-5	Incredible	261-318	Over 200

[1]Original scale: wind speeds represent fastest estimated speeds over one quarter of a mile. [2]Enhanced scale: wind speeds represent maximum 3-second gusts.
Source: U.S. Department of Commerce, National Oceanic and Atmospheric Administration.

Tornado Losses

In 2018 insured losses from U.S. tornadoes and thunderstorms totaled $14.1 billion, down from $18 billion in 2017, according to Munich Re. The number of tornadoes fell to 1,124 in 2018 from 1,429 in 2017, according to the National Oceanic and Atmospheric Administration (NOAA). The 2017 total was the highest since 2011, when there were 1,691 tornadoes, including two spring events that resulted in more than $14 billion in losses when they occurred. There were 10 direct fatalities from tornadoes in 2018, compared with 35 in 2017, according to NOAA. May was the top month for tornadoes in 2018, with 155 twisters.

Preliminary NOAA reports show there were 1,431 tornadoes in 2019 through November compared to 1,060 for the same period in 2018. Tornadoes killed 38 people from January to November 2019, compared with nine people for the same period in 2018. On March 3, 2019 a tornado struck southeast Alabama as part of a severe storm system that resulted in catastrophic damage in Alabama, Georgia, South Carolina and Florida. At least 23 people were killed in the March 3 tornado in Lee County, Alabama. In Beauregard, Alabama, the tornado left a half-mile wide path of destruction. The National Weather Service said that the tornado was F4 strength with top winds of 170 miles per hour. The tornado storm system of March 3 was the deadliest outbreak in the United States since a system in Arkansas and Mississippi in April 2014 killed 35 people. There were 303 tornadoes in April which caused seven deaths: two each in Texas, Louisiana and Oklahoma and one in Mississippi. There were 556 tornadoes recorded in May. These tornadoes claimed another seven lives, including three in Missouri, two in Oklahoma and one each in Iowa and Ohio. Tornadoes from May 26 to May 29 in 13 states caused $2.8 billion in losses, according to the Property Claim Services unit of ISO. On October 20 and 21, a severe thunderstorm outbreak ripped through Texas, Oklahoma, Missouri, Arkansas, Tennessee and Louisiana, and produced several tornadoes including an EF-3 affecting the Dallas, Texas area. Aon said insured losses may reach the hundreds of million dollars.

Top 10 Costliest U.S. Catastrophes Involving Tornadoes[1] ($millions)

Rank	Date	Location	Estimated insured loss[2]	
			Dollars when occurred	In 2018 dollars[3]
1	Apr. 22-28, 2011	AL, AR, GA, IL, KY, LA, MO, MS, OH, OK, TN, TX, VA	$7,300	$8,210
2	May 20-27, 2011	AR, GA, IA, IL, IN, KS, KY, MI, MN, MO, NC, NE, NY, OH, OK, PA, TN, TX, VA, WI	6,900	7,760
3	May 2-11, 2003	AL, AR, CO, GA, IA, IL, IN, KS, KY, MO, MS, NC, NE, OH, OK, SC, SD, TN	3,205	4,283
4	May 26-29, 2019	CO, IA, IL, IN, KS, MO, NE, NJ, NY, OH, OK, PA, WY	2,835	2,835
5	Oct. 4-6, 2010	AZ	2,700	3,100
6	May 8-11, 2017	CO, MO, NM, OK, TX	2,507	3,041
7	Mar. 2-3, 2012	AL, GA, IN, KY, OH, TN	2,500	2,758
8	Apr 28-29, 2012	IL, IN, KY, MO, TX	2,500	2,758
9	Apr. 6-12, 2001	AR, CO, IA, IL, IN, KS, MI, MN, MO, NE, OH, OK, PA, TX	2,200	2,563
10	Apr. 3-5, 2011	GA, IA, IL, KS, KY, MO, NC, SC, TN, WI	2,000	2,249

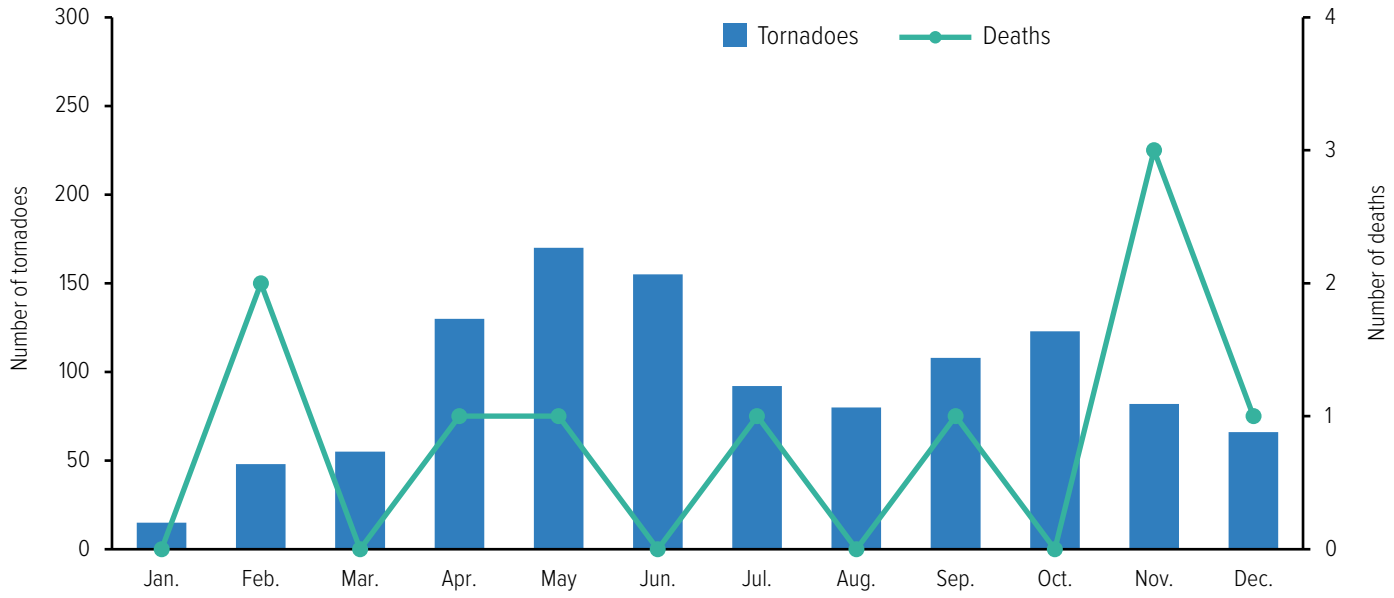
[1]Based on data through November 20, 2019. [2]Property coverage only. In addition to losses due to tornadoes themselves, amounts may include losses due to hail, wind and flooding during the same event. [3]Adjusted for inflation through 2018 by the Insurance Information Institute using the GDP implicit price deflator.

Source: The Property Claim Services® (PCS®) unit of ISO®, a Verisk Analytics® company; Bureau of Labor Statistics.

The costliest U.S. catastrophe involving tornadoes occurred in April 2011, when a spate of twisters hit Tuscaloosa, Alabama, and other areas, causing $8.2 billion in insured losses in 2018 dollars.

The second costliest were the tornadoes that struck Joplin, Missouri, and other locations in May 2011, resulting in $7.8 billion in insured losses in 2018 dollars.

Number Of Tornadoes And Related Deaths Per Month, 2018[1]



[1]Excludes Puerto Rico. A tornado that crosses state lines is counted as a single event in this chart.

Source: U.S. Department of Commerce, Storm Prediction Center, National Weather Service.

Tornadoes And Related Deaths In The United States, 1999-2018[1]

Year	Tornadoes	Deaths
1999	1,345	94
2000	1,071	40
2001	1,216	40
2002	941	55
2003	1,376	54
2004	1,819	36
2005	1,264	38
2006	1,103	67
2007	1,098	81
2008	1,692	126
2009	1,156	21
2010	1,282	45
2011	1,691	553
2012	938	70
2013	906	55
2014	886	47
2015	1,177	36
2016	976	18
2017	1,429	35
2018	1,124	10

[1]Excludes Puerto Rico. A tornado that crosses state lines counts as one event.
Source: U.S. Department of Commerce, Storm Prediction Center, National Weather Service.

Top 10 States, By Number Of Tornadoes, 2018[1]

Rank	State	Number of tornadoes	Fatalities
1	Louisiana	86	1
2	Iowa	84	0
3	Mississippi	68	0
4	Illinois	64	0
5	Alabama	52	0
6	Texas	52	0
7	Florida	48	0
8	Missouri	48	1
9	Kansas	45	0
10	Kentucky	41	1

[1]Tornadoes that cross state lines are counted in every state in which they touch down.
Source: U.S. Department of Commerce, Storm Prediction Center, National Weather Service.

Tornadoes And Related Deaths By State, 2018[1]

State	Tornadoes	Fatalities	Rank[2]
Alabama	52	0	5
Alaska	0	0	[3]
Arizona	6	0	35
Arkansas	33	1	17
California	6	0	35
Colorado	39	0	12
Connecticut	8	0	33
Delaware	0	0	[3]
D.C.	0	0	[3]
Florida	48	0	7
Georgia	21	0	22
Hawaii	0	0	[3]
Idaho	11	0	29
Illinois	64	0	4
Indiana	16	0	26
Iowa	84	0	2
Kansas	45	0	9
Kentucky	41	1	10
Louisiana	86	1	1
Maine	0	0	[3]
Maryland	2	2	40
Massachusetts	7	0	34
Michigan	13	0	28
Minnesota	36	0	14
Mississippi	68	0	3
Missouri	48	1	7
Montana	10	0	31
Nebraska	37	0	13
Nevada	4	0	37
New Hampshire	3	0	38
New Jersey	0	0	[3]
New Mexico	10	0	31
New York	11	1	29
North Carolina	41	0	10
North Dakota	31	1	18
Ohio	17	0	25
Oklahoma	24	0	21
Oregon	3	0	38
Pennsylvania	31	0	18
Rhode Island	1	0	43
South Carolina	16	0	26
South Dakota	19	0	24
Tennessee	20	1	23
Texas	52	0	5
Utah	2	0	40
Vermont	0	0	[3]
Virginia	34	1	16
Washington	2	0	40
West Virginia	1	0	43
Wisconsin	35	0	15
Wyoming	31	0	18
United States[4]	**1,169**	**10**	

[1]Ranked by total number of tornadoes. [2]States with the same number of tornadoes receive the same ranking. [3]State had no tornadoes in 2018. [4]The U.S. total will not match data used in other charts because it counts tornadoes that cross state lines.

Source: U.S. Department of Commerce, Storm Prediction Center, National Weather Service.

U.S. NATURAL CATASTROPHES: WINTER STORMS

Top 15 Costliest U.S. Winter Events By Insured Losses, 1980-2018[1] ($ millions)

Rank	Date	Event	Location	Losses when occurred		Deaths
				Overall	Insured[2]	
1	Feb. 16-25, 2015	Winter storm, winter damage	AR, CT, DC, DE, IL, KY, LA, MA, MD, ME, MI, MS, NC, NH, NJ, NY, OH, PA, RI, SC, TN, VA, VT	$2,800	$2,100	39
2	Mar. 11-14, 1993	Blizzard	AL, CT, DE, FL, GA, KY, LA, MA, MD, ME, MS, NC, NH, NJ, NY, OH, PA, RI, SC, TN, TX, VA, VT, WV	5,000	2,000	270
3	Jan. 5-8, 2014	Winter damage, cold wave	AL, CT, GA, IL, IN, KY, MA, MD, ME, MI, MN, MO, MS, NC, NE, NJ, NY, OH, PA, SC, TN, VA, WI	2,500	1,700	NA
4	Apr. 13-17, 2007	Winter storm, tornado, floods	CT, DE, GA, LA, MA, MD, ME, MS, NC, NH, NJ, NY, PA, RI, SC, TX, VA, VT, WV	2,000	1,600	19
5	Mar. 1-3, 2018	Winter storm	CT, DE, DC, MD, MA, NJ, NY, NC, PA, RI, VA	2,300	1,600	9
6	Apr. 7-11, 2013	Winter storm	CA, IN, KS, MO, NE, SD, WI	1,500	1,200	NA
7	Mar. 13-15, 2010	Winter storm (Nor'Easter), floods	CT, MA, NH, NJ, NY, PA, RI	1,700	1,200	11
8	Dec. 10-13, 1992	Winter storm	CT, DE, NJ, NY, MA, MD, NE, PA, RI, VA	3,000	1,000	19
9	Jan. 31-Feb. 3, 2011	Winter storm, snowstorms, winter damage	CT, IA, IL, IN, KS, MA, ME, MO, NY, OH, PA, RI, TX, WI	1,300	980	36
10	Dec. 17-30, 1983	Winter damage, cold wave	FL, GA, ID, IL, IN, IA, KS, KY, LA, MD, MA, MI, MN, MS, MO, MT, NE, NJ, NY, NC, ND, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, WA, WV, WI, WY	1,000	880	500
11	Jan. 17-20, 1994	Winter damage, cold wave	CT, DE, IN, IL, KY, MA, ME, MD, NC, NH, NJ, NY, OH, PA, RI, SC, TN, VA, VT, WV	1,000	800	70
12	Feb. 10-12, 1994	Winter damage	AL, AR, GA, LA, MS, NC, OK, SC, TN, TX, VA	3,000	800	9
13	Jan. 1-4, 1999	Winter storm	AL, AR, CT, DE, FL, GA, IL, IN, LA, MO, MA, MD, ME, MS, NC, NJ, NY, OH, OK, PA, RI, SC, TN, TX, VA, WV	1,000	780	25
14	Jan. 4-9, 2008	Winter storm	AR, CA, CO, IL, IN, KS, MI, MO, NE, NY, OH, OK, OR, WA, WI	1,000	750	12
15	Jan. 31-Feb. 6, 1996	Winter damage	AL, AR, CT, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, MI, MO, MS, NE, NJ, NY, OH, OK, PA, SC, TN, TX, VA, WV, WI	1,500	740	16

[1]Costliest U.S. blizzards and winter storms/damage based on insured losses when occurred, as of March 2019. [2]Based on property losses including, if applicable, agricultural, offshore, marine, aviation and National Flood Insurance Program losses and may differ from data shown elsewhere.

NA=Data not available.

Source: © 2019 Munich Re, NatCatSERVICE.

U.S. NATURAL CATASTROPHES: FLOODS

Two events that occurred in 2017 gained places in the chart below showing the 10 most significant floods based on National Flood Insurance Program (NFIP) payouts as of January 31, 2019. Hurricane Harvey ranks as the second most significant U.S. flood event, with more than 76,000 NFIP policyholders filing claims. FEMA has paid $8.9 billion to those policyholders. Flooding from Hurricane Irma ranks number 9, with about 22,000 policyholders filing claims and $1 billion in payments. Hurricane Florence, which occurred in September 2018, ranked 11th with about 13,800 claims filed and about $648 million in payouts. Hurricane Michael in October 2018 ranked 32nd with about 3,500 claims filed and about $202 million in payouts. The figures below are preliminary, as claims are still being processed.

Top 10 Most Significant Flood Events By National Flood Insurance Program Payouts[1]

Rank	Date	Event	Location	Number of paid losses	Amount paid ($ millions)	Average paid loss
1	Aug. 2005	Hurricane Katrina	AL, FL, GA, LA, MS, TN	166,790	$16,258	$97,474
2	Sep. 2017	Hurricane Harvey	AL, AR, FL, GA, KY, LA, MS, NC, TX	76,257	8,909	116,823
3	Oct. 2012	Superstorm Sandy	CT, DC, DE, MA, MD, ME, NC, NH, NJ, NY, OH, PA, RI, VA, VT, WV	132,360	8,804	66,517
4	Sep. 2008	Hurricane Ike	AR, IL, IN, KY, LA, MO, OH, PA, TX	46,701	2,702	57,866
5	Aug. 2016	Louisiana severe storms and flooding	LA	26,976	2,468	91,507
6	Sep. 2004	Hurricane Ivan	AL, DE, FL, GA, LA, MD, MS, NJ, NY, NC, OH, PA, TN, VA, WV	28,154	1,608	57,097
7	Aug. 2011	Hurricane Irene	CT, DC, DE, MA, MD, ME, NC, NH, NJ, NY, PA, RI, VA, VT	44,314	1,346	30,369
8	Jun. 2001	Tropical Storm Allison	FL, LA, MS, NJ, PA, TX	30,671	1,105	36,028
9	Sep. 2017	Hurricane Irma	FL, GA, SC	21,920	1,054	48,095
10	Oct. 2016	Hurricane Matthew	FL, GA, NC, SC, VA	16,586	654	39,455

[1]Includes events from 1978 to January 31, 2019 as of March 21, 2019. Defined by the National Flood Insurance Program as an event that produces at least 1,500 paid losses. Stated in dollars when occurred.

Source: U.S. Department of Homeland Security, Federal Emergency Management Agency; U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Hurricane Center.

U.S. NATURAL CATASTROPHES: EARTHQUAKES

The 1994 Northridge quake was the costliest U.S. earthquake on record, causing $15.3 billion in insured damages when it occurred ($26.4 billion in 2018 dollars) according to Munich Re. It ranks as the eighth costliest U.S. disaster, based on insured property losses (in 2018 dollars). Six of the costliest U.S. quakes from 1980 to 2018, based on inflation-adjusted insured losses, were in California.

In 2019, the sparsely populated Ridgecrest City section of California was struck by a pair of significant earthquakes. On July 4 a 6.4-magnitude "foreshock" earthquake hit the area, followed by a stronger 7.1 magnitude quake the following day, along with a number of aftershocks. The 7.1 quake was the largest to hit the state in 20 years. According to Karen Clark and Co., insured losses from the quakes are estimated to total less than $40 million.

In 2018 a large 7.9 magnitude earthquake hit Kodiak Island, Alaska on January 23. No significant damage was reported from the quake or from the small tsunami that was observed in a handful of Alaska cities, according to the United States National Tsunami Warning Center. On May 4 a 6.9 magnitude quake struck the Big Island of Hawaii, caused by the eruption of Mount Kilauea. No significant damage was reported. As the eruption continued, a 5.5 magnitude earthquake was recorded on June 3. The eruption caused about 500 quakes in one day, and many aftershocks. On November 30 a 7.1 magnitude quake struck about 8 miles north of Anchorage, Alaska. It caused $130 million in insured losses but no fatalities were reported. There were about 2,000 aftershocks in the state in the days following the quake. The city's major seismic improvements put into place after a 1964 magnitude 9.2 quake are credited for the limited damage from the November 2018 quake. The 1964 quake was the largest magnitude in the nation.

In 2017 the biggest earthquake in the United States was a magnitude 6.2 quake that occurred on May 1 in Skagway, Alaska. No significant damage was reported.

Top 10 Costliest U.S. Earthquakes By Inflation-Adjusted Insured Losses[1] ($ millions)

Rank	Date	Location	Overall losses when occurred	Insured losses[2]		Fatalities
				Dollars when occurred	In 2018 dollars[3]	
1	Jan. 17, 1994	California: Northridge, Los Angeles, San Fernando Valley, Ventura, Orange	$44,000	$15,300	$26,373	61
2	Apr. 18, 1906	California: San Francisco, Santa Rosa, San Jose	525	180	4,628[4]	3,000
3	Oct. 17, 1989	California: Loma Prieta, Santa Cruz, San Francisco, Oakland, Berkeley, Silicon Valley	10,000	960	1,926	68
4	Feb. 28, 2001	Washington: Olympia, Seattle, Tacoma; Oregon	2,000	300	430	1
5	Oct. 1, 1987	California: Los Angeles County, Whittier	360	75	164	8
6	Aug. 24, 2014	California: Napa, Vallejo, Solano, Sonoma, American Canyon	700	150	159	1
7	Nov. 30, 2018	Alaska: Anchorage, Wasilla, Palmer, Tok, Valdez	150	130	130	0

(table continues)

Top 10 Costliest U.S. Earthquakes By Inflation-Adjusted Insured Losses[1] ($ millions) (Cont'd)

Rank	Date	Location	Overall losses when occurred	Insured losses[2]		Fatalities
				Dollars when occurred	In 2018 dollars[3]	
8	Apr. 4, 2010	California: San Diego, Calexico, El Centro, Los Angeles, Imperial; Arizona: Phoenix, Yuma	150	100	116	0
9	Oct. 15, 2006	Hawaii: Big Island, Kailua Kona, Oahu, Honolulu	200	50	62	0
10	Aug. 23, 2011	Virginia: Mineral, Richmond; DC; New York: New York; Maryland: Baltimore	150	50	56	0

[1]Costliest U.S. earthquakes occurring from 1980 to 2018, based on insured losses when occurred. Also includes the 1906 San Francisco, California, earthquake, for which reliable insured losses are available. [2]Based on property losses including, if applicable, agricultural, offshore, marine, aviation and National Flood Insurance Program losses and may differ from data shown elsewhere. [3]Inflation-adjusted to 2018 dollars by the Insurance Information Institute using the Bureau of Labor Statistics' Inflation Calculator. [4]Inflation-adjusted to 2018 dollars based on 1913 Bureau of Labor Statistics data (earliest year available).

Source: © 2018 Munich Re, NatCatSERVICE; Insurance Information Institute.

The 2016 analysis below is based on AIR Worldwide's U.S. earthquake model. The preceding chart ranks historic earthquakes based on their total insured property losses, adjusted for inflation. The chart below uses a computer model to measure the estimated impact of historical quakes according to current exposures. It makes use of the firm's property exposure database and takes into account latest updates to seismic and ground motion information as well as updated building characteristics of insured properties.

Estimated Insured Losses For The Top 10 Historical Earthquakes Based On Current Exposures[1] ($ billions)

Rank	Date	Location	Magnitude	2017 insured loss (current exposures)
1	1906	San Francisco, CA	7.8	$71
2	1811-1812	New Madrid, MO	7.7	59
3	1700	Cascadia Subduction Zone, WA, OR, CA	9.0	47
4	1838	San Francisco, CA	7.4	31
5	1886	Charleston, SC	7.3	30
6	1994	Northridge, CA	6.7	15
7	1868	Hayward, CA	7.0	15
8	1812	Wrightwood, CA	7.5	12
9	1857	Fort Tejon, CA	7.9	8
10	1989	Loma Prieta, CA	6.9	4

[1]Modeled loss to property, contents, business interruption and additional living expenses for residential, mobile home, commercial and auto exposures as of December 31, 2016. Losses include demand surge and fire following earthquake and account for tsunami, liquefaction and landslide. Policy conditions and earthquake insurance take-up rates are based on estimates by state insurance departments and client claims data. The model reflects recent updates to seismic and ground motion information as well as updated building characteristics of insured properties.

Source: AIR Worldwide Corporation.

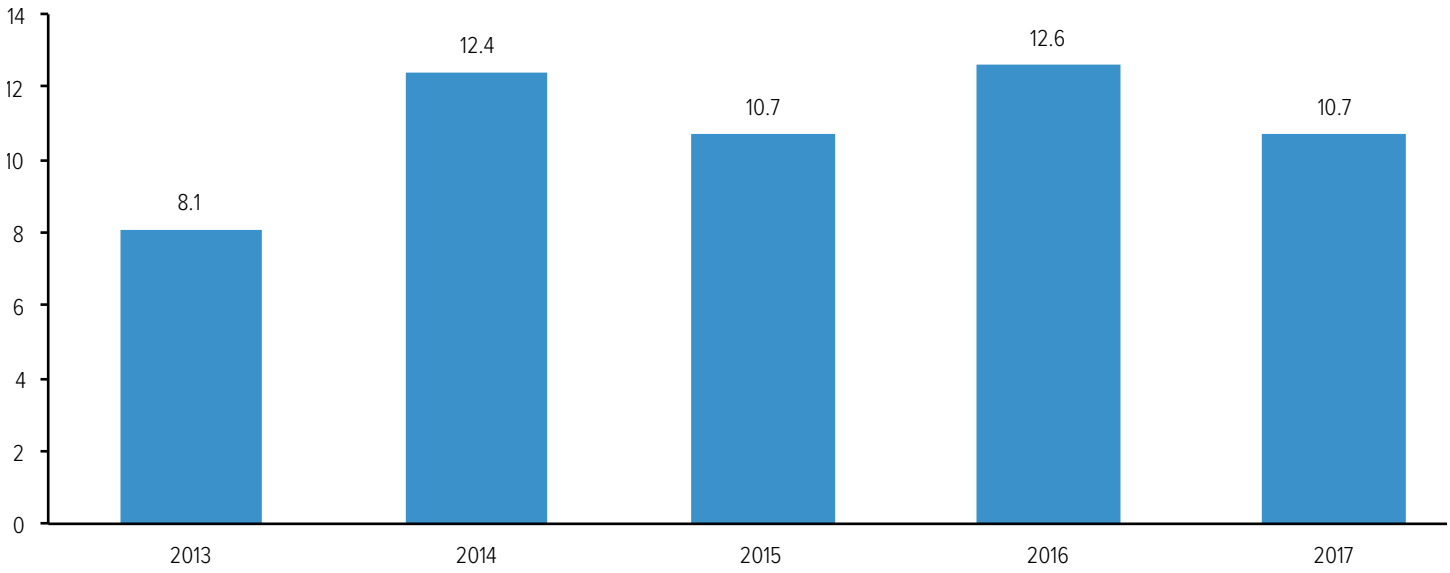
U.S. NATURAL CATASTROPHES: HAIL

Hail causes about $1 billion in damage to crops and property each year, according to the National Oceanic Atmospheric Administration (NOAA). There were 4,610 major hailstorms in 2018, according to the NOAA's Severe Storms database, resulting in $810 million in property and crop damage.

An August 2014 report issued by Verisk Insurance Solutions showed that from 2000 to 2013, U.S. insurers paid almost 9 million claims for hail losses, totaling more than $54 billion. Most of those losses—70 percent—occurred during the last six years of that period. In addition to the higher number of claims, the average claim severity during those six years was 65 percent higher than the period 2000 through 2007.

Verisk's latest report, *Hail: The Hidden Risk,* says that in 2017 more than 10.7 million properties in the United States were affected by one or more damaging hail events. Verisk describes hail as damaging when the hailstones are greater than an inch in diameter. The number of properties affected in 2017 was lower than the 12.6 million properties affected in 2016 and 12.4 million in 2014, and the same as in 2015, as shown in the chart below.

Estimated U.S. Properties Affected By Hail, 2013-2017[1] (millions)



[1]Defined as affected when hailstones are greater than one inch in diameter.

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Verisk's research found that about 30 percent of hail claims have an error in the date of loss, and about half of those hail claims were made a year or more after the event took place, because the damage most often strikes roofs which are often not inspected by homeowners.

Texas had the largest number of properties that experienced one or more damaging hail events in 2017, with 1.3 million properties, followed by Illinois with 872,000 and Missouri with 833,000.

Top 10 States By Number Of Properties Experiencing Damaging Hail Events, 2017[1]

Rank	State	Estimated number of properties affected	Percentage of properties affected
1	Texas	1,349,374	18%
2	Illinois	872,087	24
3	Missouri	832,525	46
4	Minnesota	737,375	44
5	Oklahoma	644,803	55
6	Kansas	513,941	57
7	Indiana	456,215	18
8	Virginia	400,529	16
9	North Carolina	400,248	10
10	Colorado	374,435	22

[1]Verisk considers hail to be damaging when the hailstones are greater than 1 inch in diameter.

Source: ©2018 Insurance Services Office, Inc. (ISO) and Verisk. Reprinted with permission from ISO. Further reprint prohibited without permission from ISO.

Hail Fatalities, Injuries And Damage, 2014-2018[1]

Year	Fatalities	Injuries	Property damage ($ millions)	Crop damage ($ millions)	Total damage ($ millions)
2014	0	23	$1,416.9	$293.2	$1,710.1
2015	0	0	586.0	133.0	719.0
2016	0	21	3,512.7	23.7	3,536.4
2017	0	14	1,722.2	59.5	1,781.8
2018	0	11	722.8	87.4	810.2

[1]Includes the 50 states, Puerto Rico, Guam and the U.S. Virgin Islands.

Source: U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Weather Service.

Top Five States By Number Of Major Hail Events, 2018[1]

Rank	State	Number of hail events
1	Texas	508
2	Kansas	493
3	Colorado	332
4	Nebraska	309
5	South Dakota	309
	United States	**4,610**

[1]Hailstones one inch in diameter or larger.

Source: U.S. Department of Commerce, Storm Prediction Center, National Weather Service.

U.S. MAN-MADE CATASTROPHES: FIRE

Fire Losses

Great strides have been made in constructing fire-resistant buildings and improving fire-suppression techniques, both of which have reduced the incidence of fire. However, in terms of property losses, these advances have been somewhat offset by increases in the number and value of buildings. On average in 2018, a fire department responded to a fire every 24 seconds in the United States, according to the National Fire Protection Association. A structure fire occurred every 63 seconds, a home fire occurred every 87 seconds, and an outside property fire occurred every 52 seconds. Fires occurred in highway-type vehicles every 2 minutes and 54 seconds.

Fire losses as shown in the chart below for homeowners, commercial multiple peril and fire insurance soared 83 percent from 2016 to 2018, reflecting the high losses from wildfires, after rising 4 percent from 2009 to 2016.

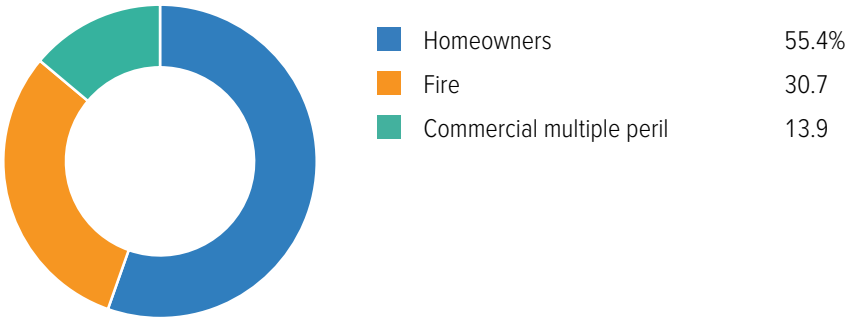
Fire Losses in The United States, 2009-2018[1]

Year	Property loss ($ millions)	Loss per capita[2]
2009	$22,911	$74.68
2010	20,486	66.23
2011	19,511	62.62
2012	23,977	76.39
2013	19,054	60.29
2014	21,801	68.47
2015	19,759	61.60
2016	23,789	73.63
2017	36,510	112.29
2018	43,583	133.21

[1]Including allowances for FAIR Plan and uninsured losses. [2]Calculated by the Insurance Information Institute using ISO property loss and population estimates from the U.S. Census Bureau, Population Division.

Source: ISO®, a Verisk Analytics® business; U.S. Census Bureau, Population Division.

Fire Losses In The United States, By Line Of Insurance, 2018[1]



[1]Estimated. Includes FAIR plan and uninsured losses.

Source: ISO®, a Verisk Analytics® business.

Structure Fires

The National Fire Protection Association (NFPA) reports that there were 499,000 structure fires in the United States in 2018, essentially unchanged from 2017. Of note, the number of structure fires in 2016 was the lowest since the NFPA began collecting data in 1977.

Fires in structures not related to wildfires caused $11.1 billion in property damage in 2018, up 3.7 percent from the 2017 loss of $10.7 billion. The average loss for these structure fires was $22,244, up 3.7 percent from 2017. Wildfires resulted in an additional $12 billion in direct property loss in 2018, up from $10 billion in 2017. The wildfire loss figures from the NFPA may differ from other organizations that report wildfire loss data because of the use of different collection methods and criteria for classifying events.

Structure Fires, 2009-2018[1]

Year	Number of fires	Direct property damage[2] ($ billions)	
		As reported	In 2019 dollars[3]
2009	480,500	$10.8	$12.9
2010	482,000	9.7	11.4
2011	484,500	9.7	11.0
2012	480,500	9.8	11.0
2013	487,500	9.5	10.4
2014	494,000	$9.8	$10.6
2015	501,500	10.3	11.1
2016	475,500	7.8	8.3
2017	499,000	10.7	11.2
2018	499,000	11.1	11.3

[1]Estimates based on data reported by fire departments responding to the 2018 National Fire Experience Survey. May exclude reports from all fire departments. [2]Does not include damage from major wildfires. [3]Calculated from unrounded numbers by the Insurance Information Institute using the U.S Bureau of Labor Statistics' Inflation Calculator.

Source: Reproduced with permission from *Fire Loss in the United States During 2018* by Ben Evarts, ©National Fire Protection Association https://www.nfpa.org/.

Civilian (Nonfirefighter) Fire Deaths And Injuries By Property Use, 2018

Property use	Civilian fire deaths	Percent change from 2017	Percent of all civilian fire deaths	Civilian fire injuries
Residential	2,820	4%	77%	11,600
Single- and 2-family homes[1]	2,360	3	67	7,800
Apartments	360	6	10	3,400
Other residential[2]	100	25	3	400
Nonresidential structures[3]	90	-14	2	1,100
Highway vehicles	490	23	13	1,300
Other vehicles[4]	70	133	2	200
All other fires[5]	100	-31	3	1,000
Camp Fire (wildland fire)	85	NA	2	NA
Total	**3,655**	**8%**	**100%**	**15,200**

[1]Includes manufactured homes. [2]Includes hotels and motels, college dormitories, boarding houses, etc. [3]Includes public assembly, educational, institutional, store and office, industry, utility, storage and special structure properties. [4]Includes trains, boats, ships, farm vehicles and construction vehicles. [5]Includes outside properties with value, as well as brush, rubbish and other outside locations.

NA=Data not available.

Source: Reproduced with permission from *Fire Loss in the United States During 2018* by Ben Evarts, ©National Fire Protection Association https://www.nfpa.org/.

Structure Fires By Type Of Use, 2018[1]

Property use	Estimated number of fires	Percent change from 2017	Property loss[2] ($ millions)	Percent change from 2017
Public assembly	15,500	7%	$384	35%
Educational	4,500	18	109	113
Institutional	6,500	-7	44	10
Residential	387,000	2	8,286	5
Single- and 2-family homes[3]	276,500	5	6,493	6
Apartments	86,500	-9	1,529	-4
Other[4]	24,000	9	264	63
Stores and offices	18,000	[5]	778	2
Industry, utility, defense[6]	11,000	29	508	1
Storage in structures	27,000	-2	833	[5]
Special structures	29,500	-24	124	-62
Total	**499,000**	**[5]**	**$11,066**	**3%**

[1]Estimates based on data reported by fire departments responding to the 2018 National Fire Experience Survey. May exclude reports from all fire departments. [2]Includes overall direct property loss to contents, structures, vehicles, machinery, vegetation or any other property involved in a fire. Excludes indirect losses, such as business interruption or temporary shelter costs. [3]Includes manufactured homes. [4]Includes hotels and motels, college dormitories, boarding houses, etc. [5]Less than 0.1 percent. [6]Excludes incidents handled only by private brigades or fixed suppression systems.

Source: Reproduced with permission from *Fire Loss in the United States During 2018* by Ben Evarts, ©National Fire Protection Association https://www.nfpa.org/.

Top 10 Costliest Large-Loss Fires, 2018 ($ millions)

Rank	Month	State	Type of facility	Estimated loss
1	November	California	Wildland Urban Interface fire, Camp Fire	$8,473.4
2	November	California	Wildland Urban Interface fire, Woolsey Fire	2,932.1
3	July	California	Wildland Urban Interface fire, Carr Fire	892.6
4	May	Kansas	University library	70.0
5	April	California	Apartment complex under construction	60.5
6	September	D.C.	Occupied apartment building	47.0
7	July	California	Wildland Urban Interface fire, Ranch Fire	30.3
8	July	Wisconsin	Printing facility	21.0
9	February	California	Single-family home	20.5
10	May	Missouri	Hog farm	20.0
10	August	California	Wood product manufacturing Plant	20.0

Note: Loss data shown here may differ from figures shown elsewhere for the same event due to differences in the date of publication, the geographical area covered and other criteria used by organizations collecting the data.

Source: Reproduced with permission from *Large-Loss Fires in the United States, 2018* by Stephen G. Badger and Matthew Foley, ©National Fire Protection Association https://www.nfpa.org/News-and-Research/Data-research-and-tools.

Top 10 Costliest Large-Loss Fires In U.S. History ($ millions)

Rank	Date	Location/event	Estimated loss[1]	
			Dollars when occurred	In 2018 dollars[2]
1	Sep. 11, 2001	World Trade Center (terrorist attacks)	$33,400	$47,400[3]
2	Oct. 8, 2017	Northern CA Wildland Urban Interface fire	10,000	10,200
3	Apr. 18, 1906	San Francisco Earthquake and Fire	350	9,700
4	Nov. 8, 2018	Camp Wildland Urban Interface fire	8,500	8,500
5	Oct. 8-9, 1871	Great Chicago Fire	168	3,500
6	Nov. 8, 2018	Woolsey Wildland Urban Interface fire	2,900	2,900
7	Oct. 20, 1991	Oakland, CA, firestorm	1,500	2,800
8	Oct. 20, 2007	San Diego County, CA, The Southern California Firestorm	1,800	2,200
9	Dec. 14, 2017	Southern CA Wildland Urban Interface fire	1,800	1,800
10	Sep. 12, 2015	Valley Fire, CA, Wildland Urban Interface fire	1,500	1,600

[1]Loss estimates are from National Fire Protection Association (NFPA) records. The list is limited to fires for which some reliable dollar loss estimates exists. [2]Adjustment to 2018 dollars made by the NFPA using the Consumer Price Index, including the U.S. Census Bureau's estimates of the index for historical times. [3]Differs from inflation-adjusted estimates made by other organizations due to the use of different deflators.

Source: ©National Fire Protection Association https://www.nfpa.org/News-and-Research/Data-research-and-tools.

Top Catastrophic Multiple-Death Fires, 2018[1]

Rank[2]	Month	State	Type of facility	Deaths
1	November	California	Wildland Urban Interface fire	85
2	August	Illinois	Two-family home	10
3	July	California	Wildland Urban Interface fire	8
4	April	Tennessee	Single-family home	6
5	July	Michigan	Motel	6
6	November	Indiana	Single-family home	6
7	January	Oklahoma	Gas well	5
7	January	Kansas	Single-family home	5
7	February	Arizona	Helicopter crash/fire	5
7	March	Tennessee	Single-family home	5
7	April	New York	Single-family home	5
7	May	North Carolina	Apartment building	5
7	June	Missouri	Single-family, manufactured	5
7	June	Washington	Vacation cabin	5

(table continues)

Top Catastrophic Multiple-Death Fires, 2018[1] (Cont'd)

Rank[2]	Month	State	Type of facility	Deaths
7	July	New Jersey	Apartment building	5
7	July	Texas	Apartment building	5
7	December	Ohio	Single-family home	5

[1]Fires that kill five or more people in residential property, or three or more people in nonhome or nonstructural property. [2]Fires with the same number of deaths receive the same rank.
Source: Based on data from *Catastrophic Multiple-Death Fires in 2018* by Stephen G. Badger, ©National Fire Protection Association. Used with permission https://www.nfpa.org/.

Top 10 Most Catastrophic Multiple-Death Fires In U.S. History[1]

Rank	Date	Location/event	Deaths
1	Sep. 11, 2001	New York, NY, World Trade Center terrorist attack	2,666[2]
2	Apr. 27, 1865	Mississippi River, SS Sultana steamship	1,547
3	Oct. 8, 1871	Peshtigo, WI, forest fire	1,152
4	Jun. 15, 1904	New York, NY, General Slocum steamship	1,030
5	Dec. 30, 1903	Chicago, IL, Iroquois Theater	602
6	Oct. 12, 1918	Cloquet, MN, forest fire	559
7	Nov. 28, 1942	Boston, MA, Cocoanut Grove night club	492
8	Apr. 16, 1947	Texas City, TX, SS Grandcamp and Monsanto Chemical Co. plant	468
9	Sep. 1, 1894	Hinckley, MN, forest fire	418
10	Dec. 6, 1907	Monongha, WV, coal mine explosion	361

[1]Fires that kill five or more people in home property, or three or more people in nonhome or nonstructural property. [2]Revised to 2,976 by government officials.
Source: Reproduced with permission, © 2017, National Fire Protection Association https://www.nfpa.org/News-and-Research/Data-research-and-tools/US-Fire-Problem.

U.S. MAN-MADE CATASTROPHES: TERRORISM

Nearly 3,000 people perished in the September 11, 2001, terrorist attacks in New York, Washington and Pennsylvania, excluding the 19 hijackers. Total insured losses from the terrorist attacks on the World Trade Center in New York City and the Pentagon were about $47.0 billion in 2019 dollars, including property, life, and liability insurance claim costs. It is the worst terrorist attack on record in terms of fatalities and insured property losses, which totaled about $27.1 billion in 2019 dollars, according to Swiss Re data. Loss estimates may differ from estimates calculated by other organizations.

Top 20 Costliest Terrorist Acts by Insured Property Losses (2019 $ millions)

Rank	Date	Country	Location	Event	Insured property loss[1]	Fatalities
1	Sep. 11, 2001	United States	New York, Washington DC, Pennsylvania	Hijacked airliners crash into World Trade Center and Pentagon	$27,125[2]	2,982
2	Apr. 24, 1993	United Kingdom	London	Bomb explodes near NatWest tower in the financial district	1,310	1
3	Jun. 15, 1996	United Kingdom	Manchester	Irish Republican Army (IRA) car bomb explodes near shopping mall	1,074	0
4	Apr. 10, 1992	United Kingdom	London	Bomb explodes in financial district	969	3
5	Feb. 26, 1993	United States	New York	Bomb explodes in garage of World Trade Center	903	6
6	Jul. 24, 2001	Sri Lanka	Colombo	Rebels destroy 3 airliners, 8 military aircraft and heavily damage 3 civilian aircraft	575	20
7	Feb. 9, 1996	United Kingdom	London	IRA bomb explodes in South Key Docklands	374	2
8	Jun. 23, 1985	North Atlantic	Irish Sea	Bomb explodes on board of an Air India Boeing 747	234	329
9	Apr. 19, 1995	United States	OK, Oklahoma City	Truck bomb detonates outside government building	210	166
10	Sep. 12, 1970	Jordan	Zerqa, Dawson's Field (disused RAF airstrip in desert)	Hijacked Swissair DC-8, TWA Boeing 707, BOAC VC-10 dynamited on ground	183	0
11	Sep. 6, 1970	Egypt	Cairo	Hijacked PanAm B-747 dynamited on ground	160	0
12	Apr. 11, 1992	United Kingdom	London	Bomb explodes in financial district	138	0
13	Nov. 26, 2008	India	Mumbai	Attack on two hotels; Jewish center	122	172
14	Mar. 27, 1993	Germany	Weiterstadt	Bomb attack on a newly built, still unoccupied prison	102	0
15	Dec. 30, 2006	Spain	Madrid	Bomb explodes in car garage at Barajas Airport	84	2

(table continues)

Top 20 Costliest Terrorist Acts by Insured Property Losses (2019 $ millions) (Cont'd)

Rank	Date	Country	Location	Event	Insured property loss[1]	Fatalities
16	Dec. 21, 1988	United Kingdom	Lockerbie	Bomb explodes on board of a PanAm Boeing 747	82	270
17	Jul. 25, 1983	Sri Lanka		Riot	68	0
18	Jul. 7, 2005	United Kingdom	London	Four bombs explode during rush hour in the London Underground and on a bus	67	52
19	Nov. 23, 1996	Comoros	Indian Ocean	Hijacked Ethiopian Airlines Boeing 767-260 ditched at sea	65	127
20	Mar. 17, 1992	Argentina	Buenos Aires	Bomb attack on Israel's embassy in Buenos Aires	55	24

[1]Includes bodily injury and aviation hull losses. Updated to 2019 dollars by the Insurance Information Institute using the U.S. Bureau of Labor Statistics CPI Inflation Calculator.
[2]Differs from inflation-adjusted estimates made by other organizations due to the use of different deflators.

Source: Swiss Re, U.S. Bureau of Labor Statistics, Insurance Information Institute.

U.S. MAN-MADE CATASTROPHES: NUCLEAR INCIDENTS

The International Atomic Energy Agency (IAEA) rates the severity of nuclear incidents on the International Nuclear and Radiological Event Scale (INES) from one (indicating an anomaly) to seven (indicating a major event). The scale considers an event's impact based on three criteria: its effect on people and the environment; whether it caused unsafe levels of radiation in a facility; and if preventive measures did not function as intended. Levels six and seven designate full meltdowns, where the nuclear fuel reactor core overheats and melts. Partial meltdowns, in which the fuel is damaged, are rated four or five.

Japan's Nuclear and Industrial Safety Agency assigned a rating of seven to the March 2011 accident at Japan's Fukushima Daiichi nuclear power plant. The 1986 Chernobyl accident in the former Soviet Union is the only other incident to rate a seven. The Chernobyl incident killed 56 people directly and thousands of others indirectly through cancer and other diseases. The 2011 incident released high amounts of radiation and caused widespread evacuations in affected areas but only one death to date.

The 1979 Three Mile Island accident in Harrisburg, Pennsylvania, the worst nuclear accident in the United States, was designated a five. Insurers paid about $71 million in liability claims and litigation costs associated with the accident. In addition to the liability payments to the public under the Price-Anderson Act, $300 million was paid by a pool of insurers to the operator of the damaged nuclear power plant under its property insurance policy.

Selected Examples of Historic Nuclear Events, as Classified by the INES Scale[1]

Level	INES description	Example	Location	Year
1	Anomaly	Fast stop of the main circulation pumps and simultaneous loss of their fly wheel systems during reactor scram	Olkiluoto Nuclear Power Plant, Finland	2008
		Exposure of two workers in the nuclear power plant beyond the dose constraints	Rajasthan Nuclear Power Plant, India	2012
2	Incident	Reactor trip due to high pressure in the reactor pressure vessel	Laguna Verde Nuclear Power Plant, Mexico	2011
		Overexposure of a practitioner in interventional radiology exceeding the annual limit	Paris, France	2013
3	Serious incident	Release of iodine 131 into the environment from the radioelements production facility	Fleurus, Belgium	2008
		Severe overexposure of a radiographer	Lima, Peru	2012
4	Accident with local consequences	Radioactive material in scrap metal facility resulted in acute exposure of scrap dealer	New Delhi, India	2010
		Overexposure of four workers at an irradiation facility	Stamboliysky, Bulgaria	2011
5	Accident with wider consequences	Severe damage to the reactor core	Three Mile Island Nuclear Power Plant, USA	1979
		Four people died after being overexposed from an abandoned and ruptured high activity source	Goiania, Brazil	1987

(table continues)

Selected Examples of Historic Nuclear Events, as Classified by the INES Scale[1] (Cont'd)

Level	INES description	Example	Location	Year
6	Serious accident	Significant release of radioactive material to the environment after the explosion of a high activity waste tank	Kyshtym, Russian Federation	1957
7	Major accident	Significant release of radioactive material to the environment resulting in widespread health and environmental effects	Chernobyl, Ukraine	1986
		Significant release of radioactive material to the environment resulting in widespread environmental effects	Fukushima, Japan	2011

[1]International Nuclear and Radiological Event Scale.

Source: International Atomic Energy Agency. INES Flyer.

CRIME: ARSON

Arson is the act of deliberately setting fire to a building, car or other property for fraudulent or malicious purposes and is a crime in all states. According to the National Fire Protection Association (NFPA), there were 25,500 fires intentionally set in structures in 2018, an increase of 13 percent from 2017. Intentionally set fires in structures resulted in 350 civilian deaths in 2018, an increase of 25 percent from 2017. Intentionally set structure fires resulted in $593 million in property loss, up 2 percent from 2017. In addition, in 2018 there were also an estimated 9,500 intentionally set vehicle fires, an increase of 12 percent compared to 2017. These fires resulted in $65 million in property loss, down 13 percent from 2017.

In 2018 property loss from intentionally set structure fires rose 2 percent from 2017, according to the National Fire Protection Association, while the number of fires rose 13 percent.

Intentionally set fires in vehicles rose 12 percent in 2018 from 2017 while the property loss from those fires fell 13 percent.

The property loss from all intentionally set fires (structures and vehicles) amounted to $658 million in 2018, virtually unchanged from 2017.

Intentionally Set Fires, 2009-2018

Year	Structures		Vehicles[2]	
	Number of fires	Property loss ($ millions)[1]	Number of fires	Property loss ($ millions)
2009	26,500	$684	15,000	$108
2010	27,500	585	14,000	89
2011	26,500	601	14,000	88
2012	26,000	581	12,500	480[3]
2013	22,500	577	10,500	86
2014	19,000	613	8,000	116
2015	23,000	460	10,000	74
2016	20,000	473	9,500	40
2017	22,500	582	8,500	75
2018	25,500	593	9,500	65

[1]Includes overall direct property loss to contents, structures, vehicles, machinery, vegetation or any other property involved in a fire. Excludes indirect losses, such as business interruption or temporary shelter costs. [2]Includes highway vehicles, trains, boats, ships, aircraft and farm and construction vehicles. [3]Includes $400 million in property loss from an intentionally set fire aboard the submarine USS Miami.

Source: Reproduced with permission from *Fire Loss in the United States During 2018* by Ben Evarts, ©National Fire Protection Association; earlier data from prior reports. http://www.nfpa.org

CRIME: PROPERTY

The Federal Bureau of Investigation's (FBI) *Uniform Crime Reports* defines property crime as larceny-theft, motor vehicle theft and burglary. These crimes involve the unlawful taking of money or property without the use of force or threat of force against the victims. Larceny theft involves the successful or attempted taking of property from another; it includes shoplifting, pick-pocketing, purse-snatching and bicycle theft. While motor vehicle theft of is a separate offense category, the thefts of motor vehicle parts and accessories are considered larceny. Burglary involves the unlawful entry into a structure such as a home or business. According to the FBI, there were a reported 7,196,045 property crime offenses in the United States in 2018, down 6.3 percent from 2017. The rate of property crimes was 2,199.5 per 100,000 inhabitants, down 6.9 percent from 2017. Property crimes in 2018 cost $16.4 billion. Larceny-theft accounted for the largest share of total property crimes in 2018, 72.5 percent of all property crimes. Burglary accounted for 17.1 percent, and motor vehicle theft for 10.4 percent.

Number And Rate Of Property Crime Offenses In The United States, 2009-2018[1]

	Burglary		Larceny-theft	
Year	Number	Rate	Number	Rate
2009	2,203,313	717.7	6,338,095	2,064.5
2010	2,168,459	701.0	6,204,601	2,005.8
2011	2,185,140	701.3	6,151,095	1,974.1
2012	2,109,932	672.2	6,168,874	1,965.4
2013	1,932,139	610.5	6,019,465	1,901.9
2014	1,713,153	537.2	5,809,054	1,821.5
2015	1,587,564	494.7	5,723,488	1,783.6
2016	1,516,405	468.9	5,644,835	1,745.4
2017	1,397,045	429.7	5,513,000	1,695.5
2018	1,230,149	376.0	5,217,055	1,594.6
	Motor vehicle theft		Total property crime[2]	
Year	Number	Rate	Number	Rate
2009	795,652	259.2	9,337,060	3,041.3
2010	739,565	239.1	9,112,625	2,945.9
2011	716,508	230.0	9,052,743	2,905.4
2012	723,186	230.4	9,001,992	2,868.0
2013	700,288	221.3	8,651,892	2,733.6
2014	686,803	215.4	8,209,010	2,574.1
2015	713,063	222.2	8,024,115	2,500.5
2016	767,290	237.3	7,928,530	2,451.6
2017	772,943	237.7	7,682,988	2,362.9
2018	748,841	228.9	7,196,045	2,199.5

[1]Rate is per 100,000 inhabitants. [2]Property crimes are the offenses of burglary, larceny-theft and motor vehicle theft.
Source: U.S. Department of Justice, Federal Bureau of Investigation, *Uniform Crime Reports*.

CRIME: CYBER AND IDENTITY THEFT

As businesses increasingly depend on electronic data and computer networks to conduct their daily operations, growing pools of personal and financial information are being transferred and stored online. This can leave individuals exposed to privacy violations, and financial institutions and other businesses exposed to potentially enormous liability, if and when a data security breach occurs.

Interest in cyber insurance and cyberrisk continues to grow as a result of high-profile data breaches and awareness of the almost endless range of exposures businesses face. In 2018, 500 million records were exposed in November from Marriott International Inc.; 340 million records were exposed in June from Exactis LLC, a marketing firm; 150 million were exposed at Under Armour Inc.; 92 million at MyHeritage Ltd., a genealogy firm; and 87 million records at Facebook Inc. In 2017 the largest U.S. credit bureau, Equifax Inc., suffered a breach that exposed the personal data of 145 million people, including Social Security numbers. It was among the worst breaches on record because of the amount of sensitive information stolen.

In 2018 the number of breaches reported fell from 2017, but the amount of records containing personally identifiable information soared. Breaches had reached a new record in 2017, with 1,632 breaches tracked, according to the Identity Theft Resource Center (ITRC), and the number of records exposed in 2017 rose to about 198 million. In 2018, the number of breaches fell 23 percent from 2017 to 1,244 breaches, but the number of records exposed that contained sensitive information more than doubled to 447 million, a 126 percent increase. Because only half the total number of breaches reported by the ITRC included the number of records exposed, the actual total number of exposed records likely exceeds the reported number substantially. The business sector suffered the most breaches by industry in 2018, with 571 breaches or 46 percent of the total number of breaches. Medical/healthcare organizations were affected by 363 breaches or 29 percent of total breaches. The banking/credit/financial sector ranked third as it suffered 135 breaches (11 percent of all breaches). These figures do not include the many attacks that go unreported and undetected.

Despite conflicting analyses, the costs associated with cybercrime are increasing. McAfee and the Center for Strategic and International Studies (CSIS) estimated the likely annual cost to the global economy from cybercrime is $445 billion a year, with a range of between $375 billion and $575 billion. The average cost of a data breach globally was $13.0 million in 2018, up 12 percent from $11.7 million in 2017, according to a 2019 study from the Ponemon Institute and Accenture. Researchers polled 355 organizations located in 11 countries to determine what costs they faced after a cyberattack, such as the costs to detect, recover, investigate and manage the incident response. They also included the cost of activities that occur after the fact and efforts to reduce business interruption and loss of customers. In the United States, the average annual cost of cybercrime rose 29 percent in 2018, to $27.4 million, compared with $21.2 million in 2017. Globally, the banking industry had the highest average annual cost in 2018—$18.4 million—up from $16.7 million in 2017, followed by utilities and software companies. By type of attack, malware incidents had the highest cost, at $2.6 million followed closely by web-based attacks at $2.3 million.

In 2018 the ITRC reported that hacking was the most used method of breaching data, with 482 data breaches resulting in almost 17 million records exposed. Unauthorized access ranked second with 377 data breaches affecting the highest number of records exposed by data breach type—404 million. Accidental exposure had the third highest number of breaches, 114, with 22 million records exposed.

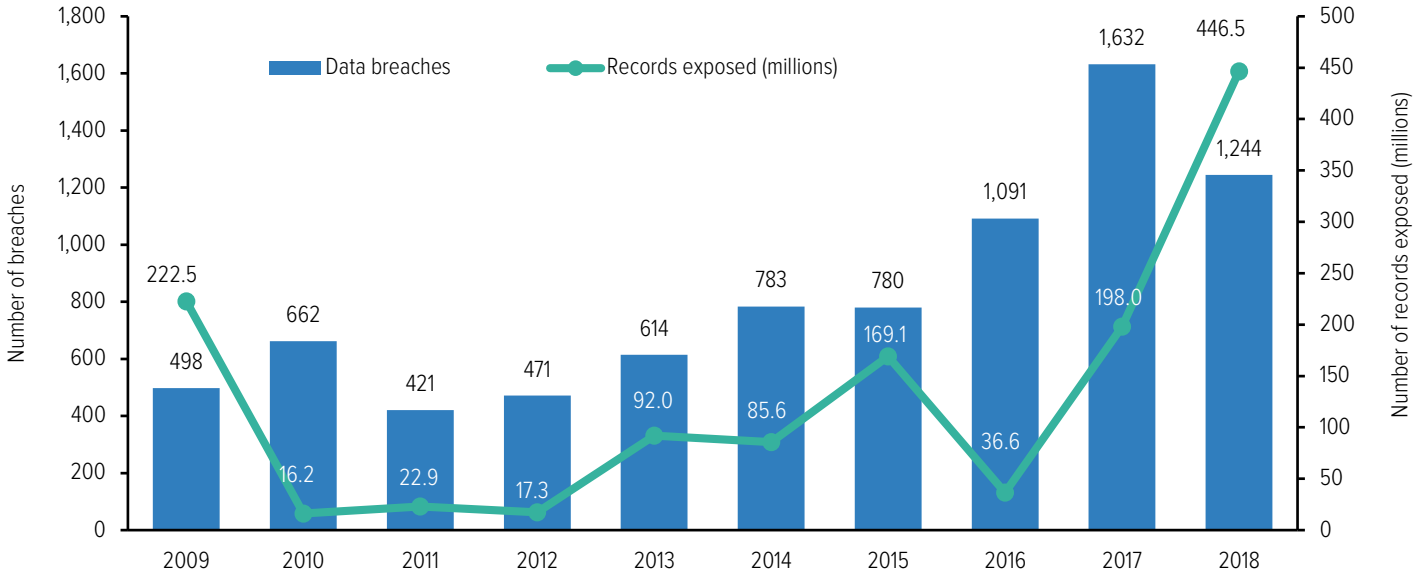
In 2019 through November 13, the ITRC tracked 1,272 breaches that exposed about 163 million records. The total includes the Capital One Financial Corp. breach in July that exposed 100 million records and the October Adobe Creative Cloud breach that exposed 7 million users. The banking, credit and financial category was the most affected sector by number of records exposed, with 100.5 million records, or 62 percent of all records exposed so far in 2019. This sector had 83 breaches, or 6.5 percent of all breaches detected. The medical and healthcare sector had about 38.5 million records exposed to date, or 24 percent of all records exposed in 461 breaches that accounted for 36 percent of all breaches.

Cyber insurance evolved as a product in the United States in the mid- to late-1990s as insurers have had to expand

coverage for a risk that is rapidly shifting in scope and nature. In 2018, 545 insurers reported writing cyber insurance, up from 505 in 2017, according to NAIC data sourced from S&P Global Market Intelligence. Direct premiums written totaled $2.0 billion in 2018, from companies that can report premiums for stand-alone and coverage provided as part of package policies, up from $1.86 billion in 2017.

According to the Insurance Information Institute (I.I.I.) and J.D. Power 2019 *Small Business Cyber Insurance and Security Spotlight Survey*SM, 12 percent of businesses surveyed suffered one or more cyber incidents in the prior year, up from 10 percent in 2018. Nearly 71 percent said they are "very concerned" about cyber incidents, up from 58 percent in 2018, and 75 percent said they believe the risk of being victimized by a cyberattack is growing at an alarming rate–up from 70 percent in 2018. Among the 44 percent of respondents who said they do not currently have cyber insurance and the 21 percent who said they do not know whether they do, 64 percent said they do not plan to purchase a cyber insurance policy in the next 12 months. While this is down from 70 percent in 2018 and given small companies' growing awareness and concerns about cyberrisk, insurers and agents and brokers might be able to increase their overall support of this market by addressing the issues of affordability and coverage limitations that seem to be an obstacle to purchasing.

Number Of Data Breaches And Records Exposed, 2009-2018[1]



[1]As of January 7, 2019.

Source: Identity Theft Resource Center, *2018 End of Year Data Breach Report*.

Data Breaches and Records Exposed By Industry, 2018

Category	Number of breaches	Percent of total
Business	571	45.9%
Medical/healthcare	363	29.2
Banking/credit/financial	135	10.9
Government/military	99	8.0
Educational	76	6.1

Category	Number of records exposed (000)	Percent of total
Business	415,233	93.0%
Government/military	18,237	4.1
Medical/healthcare	9,928	2.2
Banking/credit/financial	1,709	0.4
Educational	1,409	0.3

Source: Identity Theft Resource Center, *2018 End of Year Data Breach Report*.

Internet-Related Crime

The Internet Crime Complaint Center (IC3), a joint project of the Federal Bureau of Investigation, the National White Collar Crime Center and the Bureau of Justice Assistance monitors internet-related criminal complaints. The types of complaints the IC3 investigates are those that concern suspected internet-facilitated criminal activity. Because the IC3 is the central point for internet crime victims to report and alert the appropriate agencies to suspected criminal internet activity, the types of crimes are those that target both businesses and individuals and will encompass classes of crimes that could be classified as identity theft. The subject of identity theft is addressed by other organizations, such as the Consumer Sentinel Network from the Federal Trade Commission, as well as private companies, further in this section.

In 2018 the IC3 received and processed 351,937 complaints, a 17 percent increase from 2017. Losses soared to $2.7 billion in 2018, almost double the losses reported in 2017 that totaled $1.4 billion. In terms of dollar losses, business email compromise and email account compromise complaints were the most reported scams, with about $1.3 billion in losses, close to half of all losses. This type of scam targets both businesses and individuals who perform wire transfers. Criminals hack email accounts and attempt unauthorized fund transfers. About 20,000 people were victims of email account scams. Personal data breaches resulted in $149 million in losses and identity theft caused $100 million in losses. About 51,000 people were victims of personal data breaches and 16,000 were victims of identity theft scams.

Cybercrime Complaints, 2014-2018[1]

[1]Based on complaints submitted to the Internet Crime Complaint Center.

Source: Internet Crime Complaint Center.

Top 10 States By Number Cybercrime Victims, 2018[1]

Rank	State	Number
1	California	49,031
2	Texas	25,589
3	Florida	23,984
4	New York	18,124
5	Virginia	14,800
6	Washington	10,775
7	Pennsylvania	10,554
8	Illinois	10,087
9	Colorado	9,328
10	Georgia	9,095

[1]Based on the total number of complaints submitted to the Internet Crime Complaint Center via its website from each state and the District of Columbia where the complainant provided state information.

Source: Internet Crime Complaint Center.

Top 10 Writers Of Cybersecurity Insurance By Direct Premiums Written, 2018[1] ($000)

Rank	Group/company	Direct premiums written[2]	As a percent of total
1	Chubb Ltd.	$325,800	16.2%
2	AXA	255,875	12.7
3	American International Group (AIG)	232,574	11.6
4	Travelers Companies Inc.	146,231	7.3
5	Beazley Insurance Co.	110,948	5.5
6	CNA Financial Corp.	83,357	4.2
7	AXIS	76,001	3.8
8	BCS Financial Corp.	69,505	3.5
9	Liberty Mutual	66,495	3.3
10	Zurich Insurance Group	46,112	2.3
	Total, top 10	**$1,412,897**	**70.4%**
	Total[3]	**$2,008,086**	**100.0%**

[1]Includes stand-alone policies and the cybersecurity portion of package policies. Does not include premiums from companies that cannot report premiums for cybersecurity coverage provided as part of package policies. [2]Before reinsurance transactions. [3]Includes only companies that can report premiums for stand-alone cybersecurity coverage and coverage provided as part of package policies.

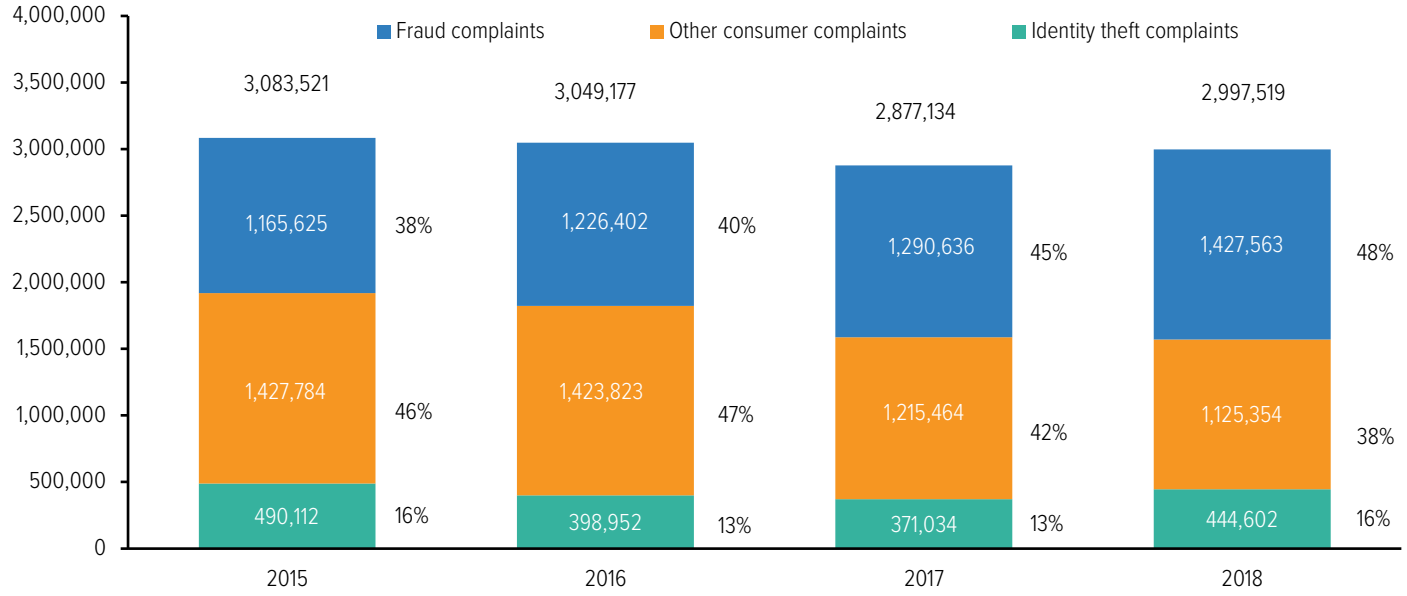
Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Consumer Fraud and Identity Theft

The Consumer Sentinel Network, maintained by the Federal Trade Commission (FTC), tracks consumer fraud and identity theft complaints that have been filed with federal, state and local law enforcement agencies and private organizations. Of the 3 million identity theft and fraud reports received in 2018, 1.4 million were fraud-related, 1.1 million were other consumer complaints and about a half million were identity theft complaints. Of the 1.4 million fraud cases, 25 percent reported money was lost. In 2018 consumers reported losing about $1.48 billion related to fraud complaints, an increase of $406 million from 2017. The median amount consumers paid in these cases was $375. Within the fraud category, imposter scams were the most reported and ranked first among the top 10 fraud categories identified by the FTC. They accounted for $488 million in losses.

In 2018, 444,602 or 15 percent of all complaints, were related to identity theft. Identity theft complaints were the third most reported to the FTC. Identity theft claims fell from 2015 to 2018 by 9.3 percent but began to increase again in 2018 and were up 19.8 percent from 2017 to 2018.

Identity Theft And Fraud Reports, 2015-2018[1]



[1]Percentages are based on the total number of Consumer Sentinel Network reports by calendar year. These figures exclude "Do Not Call" registry complaints.

Source: Federal Trade Commission, Consumer Sentinel Network.

Top Five Types of Identity Theft, 2018[1]

Type of identity theft	Number of reports	Percent of total top five
Credit card fraud—new accounts	130,928	40.5%
Miscellaneous identity theft[2]	87,765	27.1
Tax fraud	38,967	12.0
Mobile telephone—new accounts	33,466	10.3
Credit card fraud—existing accounts	32,329	10.0
Total, top five	323,455	**100.0%**

[1]Consumers can report multiple types of identity theft. In 2018, 17 percent of identity theft reports included more than one type of identity theft. [2]Includes online shopping and payment account fraud, email and social media fraud, and medical services, insurance and securities account fraud, and other identity theft.

Source: Federal Trade Commission, Consumer Sentinel Network.

Identity Theft By State, 2018[1]

State	Complaints per 100,000 population[2]	Number of complaints	Rank[3]
Alabama	108	5,241	19
Alaska	69	507	41
Arizona	126	8,853	11
Arkansas	73	2,197	38
California	186	73,668	3
Colorado	110	6,151	18
Connecticut	108	3,864	19
Delaware	158	1,517	7
D.C.	167	1,156	5
Florida	180	37,797	4
Georgia	229	23,871	1
Hawaii	72	1,021	40
Idaho	80	1,368	33
Illinois	127	16,296	10
Indiana	74	4,918	36
Iowa	53	1,654	50
Kansas	74	2,142	36
Kentucky	57	2,522	47
Louisiana	111	5,202	17
Maine	56	744	48
Maryland	145	8,747	8
Massachusetts	93	6,387	29
Michigan	140	13,952	9
Minnesota	73	4,070	38
Mississippi	97	2,894	25
Missouri	85	5,222	32
Montana	76	799	35
Nebraska	67	1,281	42
Nevada	194	5,816	2
New Hampshire	117	1,565	15
New Jersey	125	11,273	13
New Mexico	96	2,000	27
New York	122	24,248	14
North Carolina	112	11,481	16
North Dakota	63	474	44
Ohio	88	10,268	31
Oklahoma	79	3,109	34
Oregon	101	4,179	22
Pennsylvania	107	13,725	21
Puerto Rico	51	1,710	51
Rhode Island	93	990	29
South Carolina	126	6,339	11
South Dakota	56	486	48
Tennessee	101	6,808	22
Texas	159	45,030	6
Utah	94	2,915	28
Vermont	51	316	51
Virginia	97	8,196	25
Washington	100	7,380	24
West Virginia	58	1,051	45
Wisconsin	64	3,731	43
Wyoming	58	338	45

[1]Includes the District of Columbia and Puerto Rico. [2]Population figures are based on the 2018 U.S. Census population estimates. [3]Ranked by complaints per 100,000 population. States with the same number of complaints per 100,000 population receive the same rank.

Source: Federal Trade Commission, Consumer Sentinel Network.

The Scope Of Identity Theft

Identity theft continues to pose challenges for consumers as criminals develop new mechanisms to commit fraud. According to the 2019 Identity Fraud Study from Javelin Strategy & Research, the number of consumers who were victims of identity fraud fell to 14.4 million in 2018, down from a record high of 16.7 million in 2017. However, identity fraud victims in 2018 bore a heavier financial burden: 3.3 million people were responsible for some of the liability of the fraud committed against them, nearly three times as many as in 2016. Moreover, these victims' out-of-pocket fraud costs more than doubled from 2016 to 2018 to $1.7 billion. New account fraud losses also rose slightly, with criminals beginning to focus their attention on different financial accounts, such as loyalty and rewards programs and retirement accounts. Additionally, criminals are becoming adept at foiling authentication processes, particularly via mobile phone account takeovers. In 2018 these takeovers nearly doubled to 680,000 victims, compared with 380,000 in 2017. The study does note that the shift to embedded chip cards is helping to contain existing card fraud, which showed the steepest decline of any fraud type in 2018, with losses at $14.7 billion in 2018, down from $16.8 billion in 2017.

Top 10 Writers Of Identity Theft Insurance By Direct Premiums Written, 2018[1] ($000)

Rank	Group/company	Direct premiums written[2]	As a percent of total
1	State Farm Mutual Automobile Insurance	$30,507	13.5%
2	Travelers Companies Inc.	24,636	10.9
3	Liberty Mutual	11,278	5.0
4	Allstate Corp.	10,761	4.8
5	Farmers Insurance Group	9,291	4.1
6	Erie Insurance Group	8,926	4.0
7	American International Group (AIG)	5,793	2.6
8	Auto-Owners Insurance Co.	3,697	1.6
9	Munich Re	2,927	1.3
10	Markel	2,849	1.3
	Total, top 10	**$110,666**	**49.0%**
	Total[3]	**$225,922**	**100.0%**

[1]Includes stand-alone policies and the identity theft portion of package policies. Does not include premiums from companies that cannot report premiums for identity theft coverage provided as part of package policies. [2]Before reinsurance transactions. [3]Includes only companies that can report premiums for stand-alone identity theft coverage and coverage provided as part of package policies.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

MOTOR VEHICLES: CRASHES

The National Highway Traffic Safety Administration (NHTSA) reports that 36,560 people died in motor vehicle crashes in 2018, down 2.4 percent from 37,473 in 2017, declining for the second consecutive year. According to NHTSA, fatalities decreased in 2018 for drivers, motorcyclists and passenger car, van and SUV occupants. Fatalities rose in crashes involving large trucks, pedestrians and pedalcyclists. The total fatality rate, measured as deaths per 100 million vehicle miles traveled, dropped to 1.13 in 2018, from 1.17 in 2017. NHTSA property damage figures shown below are based on accidents reported to the police and exclude fender benders.

Traffic Deaths, 2009-2018

Year	Fatalities	Annual percent change	Fatality rate per 100 million vehicle miles traveled	Fatality rate per 100,000 registered vehicles
2009	33,883	-9.5%	1.15	13.08
2010	32,999	-2.6	1.11	12.82
2011	32,479	-1.6	1.10	12.25
2012	33,782	4.0	1.14	12.72
2013	32,894	-2.6	1.10	12.21
2014	32,744	-0.5	1.08	11.92
2015	35,485	8.4	1.15	12.61
2016	37,806	6.5	1.19	13.13
2017	37,473	-0.9	1.17	12.79
2018	36,560	-2.4	1.13	NA

NA=Data not available.
Source: U.S. Department of Transportation, National Highway Traffic Safety Administration.

The number of passenger vehicle occupants killed in motor vehicle crashes in 2018 decreased by 4.1 percent from 2017.

Pedestrian fatalities rose by 3.4 percent, 2017 to 2018.

Pedalcyclist (bicyclist) fatalities rose 6.3 percent in 2018 from 2017 to the highest number since 1990.

Motor Vehicle Crashes, 2008-2017

Year	Fatal	Injury	Property damage only	Total crashes
2008	34,172	1,630,000	4,146,000	5,811,000
2009	30,862	1,517,000	3,957,000	5,505,000
2010	30,296	1,542,000	3,847,000	5,419,000
2011	29,757	1,530,000	3,778,000	5,338,000
2012	31,006	1,634,000	3,950,000	5,615,000
2013	30,057	1,591,000	4,066,000	5,687,000
2014	30,056	1,648,000	4,387,000	6,064,000
2015	32,539	1,715,000	4,548,000	6,296,000
2016	34,439	2,177,000	5,065,000	7,277,000
2017	34,247	1,889,000	4,530,000	6,452,000

Source: U.S. Department of Transportation, National Highway Traffic Safety Administration.

Motor Vehicle Traffic Deaths By State, 2017-2018

State	Number of deaths		Percent change
	2017	2018	
Alabama	948	953	0.5%
Alaska	79	80	1.3
Arizona	998	1,010	1.2
Arkansas	525	516	-1.7
California	3,884	3,563	-8.3
Colorado	648	632	-2.5
Connecticut	281	294	4.6
Delaware	119	111	-6.7
D.C.	31	31	[1]
Florida	3,116	3,133	0.5
Georgia	1,540	1,504	-2.3
Hawaii	107	117	9.3
Idaho	245	231	-5.7
Illinois	1,090	1,031	-5.4
Indiana	916	858	-6.3
Iowa	330	318	-3.6
Kansas	461	404	-12.4
Kentucky	782	724	-7.4
Louisiana	770	768	-0.3
Maine	173	137	-20.8
Maryland	558	501	-10.2
Massachusetts	347	360	3.7
Michigan	1,031	974	-5.5
Minnesota	358	381	6.4
Mississippi	685	664	-3.1
Missouri	932	921	-1.2
Montana	186	182	-2.2%
Nebraska	228	230	0.9
Nevada	311	330	6.1
New Hampshire	102	147	44.1
New Jersey	624	564	-9.6
New Mexico	380	391	2.9
New York	1,006	943	-6.3
North Carolina	1,412	1,437	1.8
North Dakota	116	105	-9.5
Ohio	1,179	1,068	-9.4
Oklahoma	657	655	-0.3
Oregon	439	506	15.3
Pennsylvania	1,137	1,190	4.7
Rhode Island	84	59	-29.8
South Carolina	989	1037	4.9
South Dakota	129	130	0.8
Tennessee	1,024	1,041	1.7
Texas	3,732	3,642	-2.4
Utah	273	260	-4.8
Vermont	69	68	-1.4
Virginia	839	820	-2.3
Washington	563	546	-3.0
West Virginia	304	294	-3.3
Wisconsin	613	588	-4.1
Wyoming	123	111	-9.8
United States	**37,473**	**36,560**	**-2.4%**

[1]Less than 0.1 percent.

Source: U.S. Department of Transportation, National Highway Traffic Safety Administration.

Vehicles Involved In Fatal Crashes By Vehicle Type, 2008 And 2017

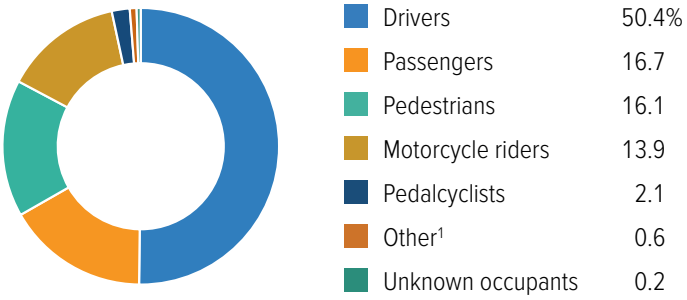
Vehicles Involved	2008	2017
Passenger cars		
Involved in crashes	20,474	21,031
Rate per 100 million vehicle miles traveled	1.34	1.48
Rate per 100,000 registered vehicles	14.73	15.82
Light trucks[1]		
Involved in crashes	19,179	19,986
Rate per 100 million vehicle miles traveled	1.73	1.38
Rate per 100,000 registered vehicles	19.01	14.75
Motorcycles		
Involved in crashes	5,409	5,326
Rate per 100 million vehicle miles traveled	25.99	26.43
Rate per 100,000 registered vehicles	69.77	61.11

[1]Trucks with 10,000 pounds or less gross vehicle weight. Includes pickups, vans, truck-based station wagons and utility vehicles.

Source: U.S. Department of Transportation (USDOT), National Highway Traffic Safety Administration (NHTSA). Vehicle miles traveled - USDOT, Federal Highway Administration, revised by NHTSA; Registered passenger cars and light trucks - R.L. Polk & Co; Registered motorcycles - USDOT, Federal Highway Administration.

According to the National Highway Traffic Safety Administration, vehicle occupants accounted for 67 percent of traffic deaths in 2017. Motorcycle riders accounted for 14 percent. Pedestrians accounted for another 16 percent; pedalcyclists, other nonoccupants, and unknown occupants accounted for the remainder.

Motor Vehicle Deaths By Activity Of Person Killed, 2017



[1]Includes other nonoccupants.

Source: U.S. Department of Transportation, National Highway Traffic Safety Administration.

Sex Of Drivers Involved In Crashes, 2008-2017[1]

	Drivers in fatal crashes					
	Male		Female		Total	
Year	Number	Rate[2]	Number	Rate[2]	Number	Rate[2]
2008	36,825	35.60	12,536	11.99	49,369	23.7
2009	32,690	31.42	11,797	11.22	44,492	21.3
2010	31,897	30.62	11,796	11.18	43,697	20.8
2011	31,771	30.34	11,227	10.51	43,001	20.3
2012	33,209	31.65	11,557	10.82	44,773	21.2
2013	32,457	30.92	11,382	10.63	43,848	20.7
2014	32,462	30.66	11,250	10.40	43,721	20.4
2015	35,679	33.15	12,333	11.17	48,030	22.0
2016	37,731	34.44	13,306	11.87	51,058	23.0
2017	37,477	33.65	13,502	11.85	50,994	22.6

[1]Includes motorcycle riders and restricted and graduated drivers license holders in some states. [2]Rate per 100,000 licensed drivers.
Source: U.S. Department of Transportation, National Highway Traffic Safety Administration.

Teenage Drivers

Motor vehicle crashes are the leading cause of death among teens according to the Centers for Disease Control's Teen Driver Fact Sheet. According to the National Highway Traffic Safety Administration, 1,830 drivers between the ages of 15 to 20 died in motor vehicle crashes in 2017, down 4 percent from 1,916 in 2016. Drivers between the ages of 15 to 20 accounted for 8 percent of all drivers involved in fatal crashes in 2017. In contrast, young drivers accounted for 5.4 percent of total drivers in the United States. Twenty-four percent of drivers between the ages of 15 to 20 who were killed in motor vehicle crashes in 2017 had been drinking some amount of alcohol; 20 percent were alcohol-impaired, which is defined by a blood alcohol content of 0.08 grams per deciliter or higher in most states. In 2017, 47 percent of drivers ages 15 to 20 involved in accidents were found not to be using a seatbelt or other restraint (in situations where the use of restraints was known).

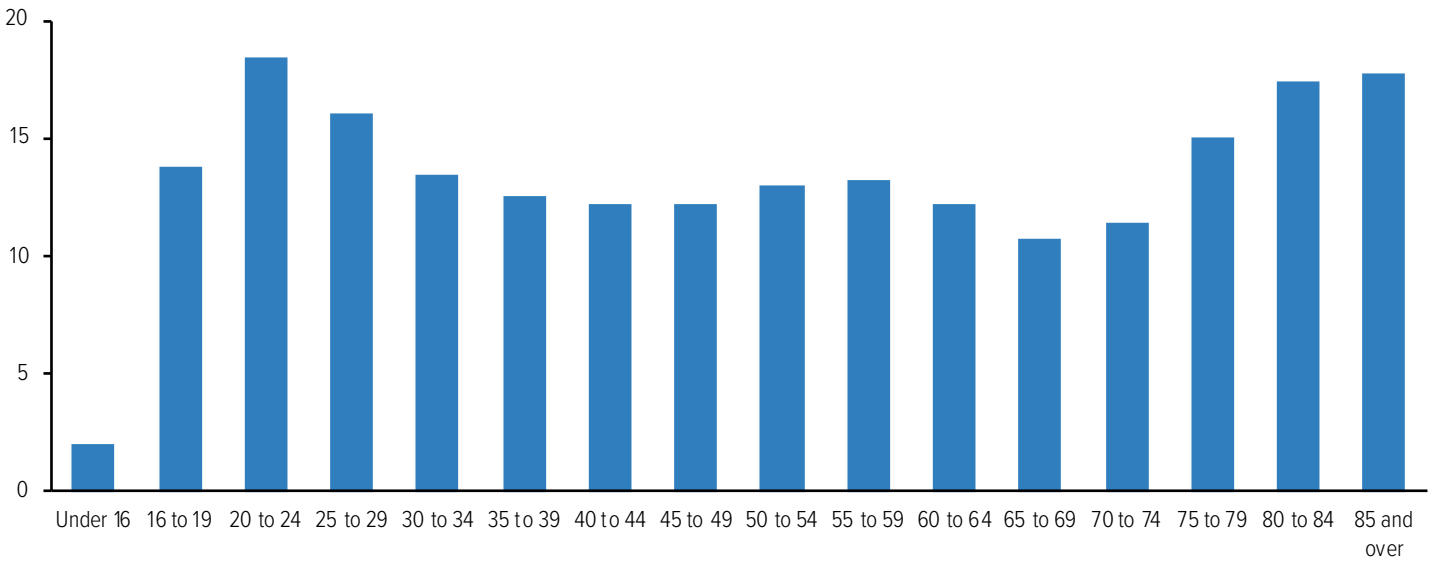
Drivers In Fatal Motor Vehicle Crashes By Age, 2017

	Licensed drivers		Drivers in fatal crashes	
Age group	Number	Percent of total drivers	Number	Involvement rate[1]
16 to 20	12,019,891	5.3%	4,278	35.6%
21 to 24	14,358,274	6.4	5,007	34.9
25 to 34	39,831,017	17.7	10,876	27.3
35 to 44	37,090,912	16.5	8,217	22.2
45 to 54	39,175,690	17.4	8,118	20.7
55 to 64	39,178,953	17.4	7,271	18.6
65 to 74	27,330,881	12.1	4,107	15.0
Over 74	16,284,040	7.2	3,120	19.2
Total	**225,346,257**	**100.0%**	**52,274[2]**	**23.2%**

[1]Per 100,000 licensed drivers in each age group. [2]Includes drivers under the age of 16 and of unknown age.

Source: U.S. Department of Transportation, National Highway Traffic Safety Administration; Federal Highway Administration.

Motor Vehicle Deaths Per 100,000 Persons By Age, 2017



Source: Insurance Institute for Highway Safety.

Driver Behavior

The National Highway Traffic Safety Administration has developed a list of driver behaviors that are factors in fatal crashes. Speeding is at the top of the list of related factors for drivers involved in fatal crashes. In 2017, 8,856 drivers who were involved in fatal crashes (or almost 17 percent) were speeding. In addition, the Insurance Institute for Highway Safety (IIHS) has found that rising state speed limits over the past 25 years have cost nearly 37,000 lives, including more than 1,900 in 2017 alone. By 2019, 42 states had maximum speed limits of 70 mph or higher. On some portion of their roads, 22 states had maximum speed limits of 70 mph, and 11 states had maximum speed limits of 75 mph. Eight states had 80 mph limits, and drivers in Texas can legally drive 85 mph on one road, according to the IIHS.

Ranking second was the influence of alcohol, drugs or medication, affecting 5,507 drivers, or about 11 percent of all drivers involved in fatal crashes. Failure to stay in the proper lane, and failure to yield the right of way were cited as third and fourth, with a total of about 7,500 drivers, or almost 15 percent of all drivers in fatal crashes exhibiting these behaviors. Distracted drivers were the fifth most likely to be involved in a fatal crash (2,994 drivers or almost 6 percent of all drivers in fatal crashes).

Driving Behaviors Reported For Drivers And Motorcycle Operators Involved In Fatal Crashes, 2017

Behavior	Number	Percent
Driving too fast for conditions or in excess of posted limit or racing	8,856	16.9%
Under the influence of alcohol, drugs, or medication	5,507	10.5
Failure to keep in proper lane	3,826	7.3
Failure to yield right of way	3,711	7.1
Distracted (phone, talking, eating, object, etc.)	2,994	5.7
Operating vehicle in a careless manner	2,961	5.7
Failure to obey traffic signs, signals, or officer	2,095	4.0
Operating vehicle in erratic, reckless or negligent manner	1,996	3.8
Overcorrecting/oversteering	1,837	3.5
Vision obscured (rain, snow, glare, lights, building, trees, etc.)	1,581	3.0
Drowsy, asleep, fatigued, ill, or blacked out	1,306	2.5
Driving wrong way in one-way traffic or wrong side of road	1,187	2.3
Swerving or avoiding due to wind, slippery surface, etc.	1,103	2.1
Making improper turn	498	1.0
Other factors	6,225	11.9
None reported	13,421	25.7
Unknown	11,710	22.4
Total drivers[1]	**52,274[1]**	**100.0%[1]**

[1]The sum of the numbers and percentages is greater than total drivers as more than one factor may be present for the same driver.
Source: U.S. Department of Transportation, National Highway Traffic Safety Administration.

Alcohol-impaired driving

Alcohol is a major factor in traffic crashes. Based on data from the U.S. Department of Transportation, National Highway Traffic Safety Administration (NHTSA), 10,511 people died in alcohol-impaired crashes in 2018. These crashes involve at least one driver or motorcycle operator with a blood alcohol concentration (BAC) of 0.08 grams per deciliter or above, the legal definition of impaired driving in most states. According to NHTSA, alcohol-impaired crash fatalities accounted for 29 percent of all crash fatalities in 2018.

The definition of alcohol-impaired driving was consistent throughout the United States until December 2018. All states and the District of Columbia except Utah define impairment as driving with a BAC (blood alcohol concentration) at or above 0.08 grams per deciliter. In Utah the BAC limit was lowered to 0.05 in December 2018. Law enforcement officials have been able to measure BAC accurately for decades, and the results obtained from testing devices is accepted in almost all jurisdictions in the United States. As noted in the Auto Laws section of Chapter 7, enforcement of existing laws and enacting laws such as mandating ignition interlocks and administrative license suspension are the most effective measures against impaired driving.

i

In 2018, 10,511 people were killed in crashes in which a driver had a blood alcohol concentration (BAC) of 0.08 grams per deciliter or higher, down 3.6 percent from 10,908 in 2017, according to the National Highway Traffic Safety Administration (NHTSA).

In the three years from 2016 to 2018, 29 percent of total fatalities were alcohol-impaired, the lowest percentage since 1982 when NHTSA began reporting alcohol data.

Total Traffic And Alcohol-Impaired Crash Fatalities, 1985-2018

Year	Total traffic fatalities	Alcohol-impaired crash fatalities[1]	
		Number	As a percent of all crash deaths
1985	43,825	18,125	41%
1990	44,599	17,705	40
1995	41,817	13,478	32
2000	41,945	13,324	32
2005	43,510	13,582	31
2006	42,708	13,491	32
2007	41,259	13,041	32
2008	37,423	11,711	31
2009	33,883	10,759	32
2010	32,999	10,136	31
2011	32,479	9,865	30
2012	33,782	10,336	31
2013	32,894	10,110	31
2014	32,744	9,943	30
2015	35,485	10,320	30
2016	37,806	10,996	29
2017	37,473	10,908	29
2018	36,560	10,511	29

[1]Alcohol-impaired driving crashes are crashes that involve at least one driver or a motorcycle operator with a blood alcohol concentration (BAC) of 0.08 grams per deciliter or above, the legal definition of alcohol-impaired driving in most states.

Source: U.S. Department of Transportation, National Highway Traffic Safety Administration.

Percent Of Drivers Involved In Fatal Crashes Impaired By Alcohol, By Age, 2008 And 2017[1]

Age	2008	2017	Point change
16 to 20	17%	15%	-2 pts.
21 to 24	34	27	-7
25 to 34	31	26	-5
35 to 44	25	23	-2
45 to 54	20	19	-1
55 to 64	12	15	3
65 to 74	6	9	3
Over 74	4	6	2

[1]Alcohol-impaired driving crashes are crashes that involve at least one driver or a motorcycle operator with a blood alcohol concentration (BAC) of 0.08 grams per deciliter or above, the legal definition of alcohol-impaired driving in most states.

Source: U.S. Department of Transportation, National Highway Traffic Safety Administration.

Persons Killed In Total And Alcohol-Impaired Crashes By Person Type, 2017

Person type	Total killed	Alcohol-impaired crash fatalities[1]	
		Number	Percent of total killed
Vehicle occupants			
Driver	18,726	6,158	33%
Passenger	6,174	1,830	30
Unknown occupant	73	2	2
Total	**24,973**	**7,989**	**32%**
Motorcyclists	**5,172**	**1,704**	**33%**
Nonoccupants			
Pedestrian	5,977	1,017	17
Pedalcyclist	783	126	16
Other/unknown	228	39	17
Total	**6,988**	1,181	**17%**
Total	**37,133**	**10,874**	**29%**

[1]Alcohol-impaired driving crashes are crashes that involve at least one driver or a motorcycle operator with a blood alcohol concentration (BAC) of 0.08 grams per deciliter or greater, the legal definition of alcohol-impaired driving in most states.

Source: U.S. Department of Transportation, National Highway Traffic Safety Administration.

Marijuana and impaired driving

Marijuana intoxication can cause impaired driving, thereby increasing the risk of crashes. Marijuana is prohibited under the Controlled Substances Act of 1970 (CSA), which established a scheduling system for substances regulated under federal law. Despite the regulation of marijuana under federal law, in 1996 California became the first state in the U.S. to pass legislation permitting a medical marijuana program. Since then, more than 30 states and the District of Columbia have passed legislation permitting comprehensive medical marijuana programs for qualifying patients to access marijuana and marijuana-related products. Since 2012 several states have passed legislation permitting anyone over the age of 21 to possess and use marijuana, subject to certain limitations. Most of those states also have or are developing regulations for a commercial market to support recreational marijuana sales.

Marijuana legalization is associated with an increase in impaired driving, increasing the risk of traffic crashes, although the magnitude of the increased risk is still a matter of study. A review from the Wiley Researcher Academy found evidence that 20 to 30 percent of crashes involving marijuana occurred because of marijuana use. This compares to roughly 85 percent of crashes involving alcohol that occurred because of alcohol use. The review estimated that the crash risk increased 22 percent while under the influence of marijuana, controlling for concurrent alcohol use. Another review found that someone driving under the influence of marijuana is 1.65 times more likely to be culpable in a fatal crash.

Compared with marijuana, determining alcohol intoxication is relatively straightforward. Alcohol is processed at a rate that allows blood alcohol concentration (BAC) to closely correlate with intoxication, making it an effective and accurate benchmark for measuring impairment. Unlike alcohol, THC (the active chemical that induces user intoxication from marijuana) levels in a user's body may not be an accurate indication of impairment. Moreover, THC is processed differently from alcohol. The AAA Foundation for Traffic Safety noted that THC can remain in a user's body for weeks after marijuana is consumed. THC levels spike immediately after consumption, but decline to low levels very quickly – long before impairment ends. It is therefore not currently possible to accurately determine when a user consumed marijuana based on the THC levels in their body, and THC detection in a user post-crash does not necessarily mean that marijuana impairment contributed to a traffic crash. Currently there is no agreed-upon impairment limit above which an individual is indisputably impaired and no breathalyzer-equivalent for marijuana impairment. (See I.I.I.'s Background on Marijuana and Impaired Driving.)

Reports from the Insurance Institute for Highway Safety (IIHS) and the Highway Loss Data Institute (HLDI) conclude that highway crashes have risen in states with legalized recreational use marijuana laws. In 2017 HLDI released an analysis of insurance losses in Colorado, Oregon and Washington that found that legalizing recreational marijuana use in the three states was associated with a combined 2.7 percent increase in the frequency of collision claims per insured vehicle year, relative to nearby control states without legalized recreational marijuana. In a 2018 report, HLDI estimates that the frequency of collision claims rose a combined 6 percent following the introduction of retail sales of recreational marijuana in Colorado, Nevada, Oregon and Washington, compared with the control states of Idaho, Montana, Utah and Wyoming. A 2018 IIHS study examined police-reported crashes in 2012 to 2016 before and after retail sales began in Colorado, Oregon and Washington. IIHS estimates that the three states combined saw a 5.2 percent increase in the rate of crashes per million vehicle registrations, compared with neighboring states that didn't legalize marijuana sales.According to the IIHS, the 5.2 percent increase in police-reported crash rates following legalization of recreational marijuana use is consistent with the 6 percent increase in insurance claim rates estimated by HLDI.

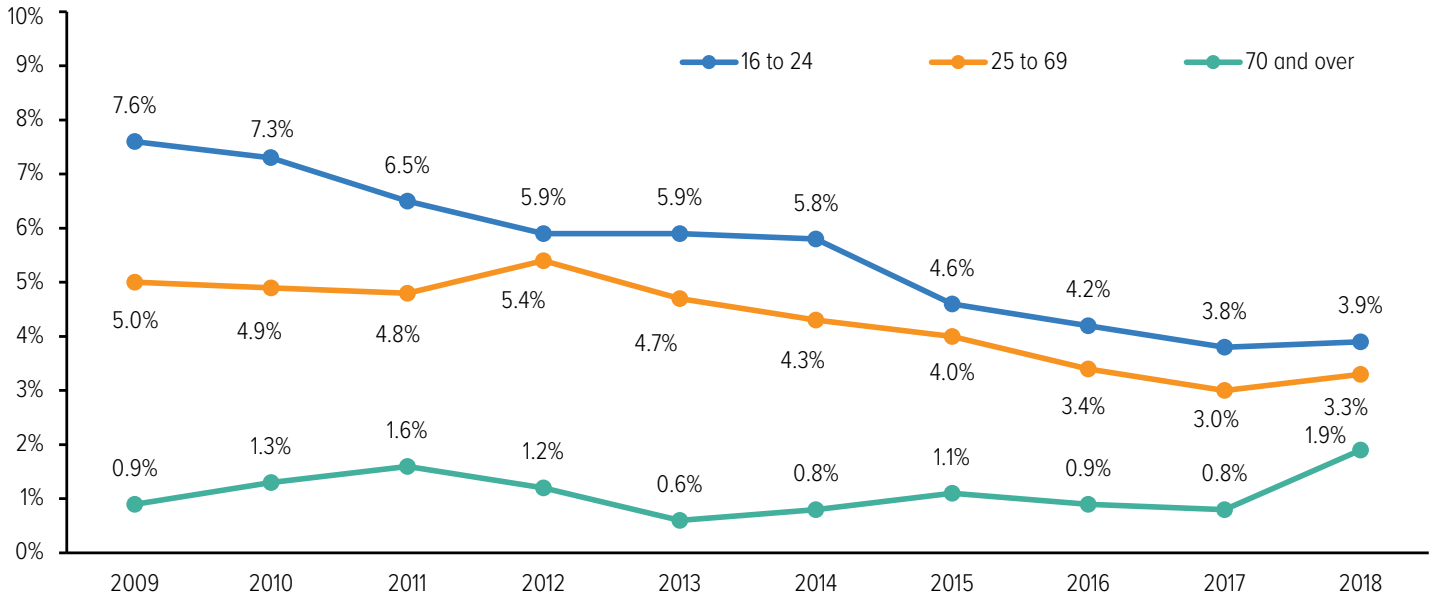
Aggressive Driving

Aggressive driving is a major factor in U.S. traffic crashes, playing a role not just in well-publicized incidents of road rage, but in a large number of fatal highway collisions each year. The National Highway Traffic Safety Administration (NHTSA) defines aggressive driving as occurring when "an individual commits a combination of moving traffic offenses so as to endanger other persons or property." While aggressive driving is difficult to quantify, a 2009 study by the American Automobile Association reported that, based on data tracked by NHTSA's Fatal Accident Reporting System, aggressive driving played a role in 56 percent of fatal crashes from 2003 through 2007, with excessive speed being the No. 1 factor. Speeding was also the leading driving behavior associated with fatal crashes in 2017 (almost 17 percent), followed by driving under the influence (11 percent), according to NHTSA. (See chart on page 190, Driving Behaviors Reported For Drivers and Motorcycle Operators Involved In Fatal Crashes, 2017).

Distracted Driving

Activities that take drivers' attention off the road, including talking or texting on cellphones, eating, talking with passengers, adjusting vehicle controls and other distractions, are a major safety threat. The National Highway Traffic Safety Administration (NHTSA) gauges distracted driving by collecting data on distraction-affected crashes, which focus on distractions that are most likely to affect crash involvement such as dialing a cellphone or texting and being distracted by another person or an outside event. In 2017, 3,166 people were killed in distraction-affected crashes. There were 2,935 distraction-affected fatal crashes, accounting for 9 percent of all fatal crashes in the nation.

Driver Handheld Cellphone Use By Age, 2009-2018[1]



[1]Percent of drivers using handheld cellphones.

Source: U.S. Department of Transportation, National Highway Traffic Safety Administration.

Fatal Crashes Involving Distracted Drivers, 2017

	Crashes	Drivers	Fatalities
Total fatal crashes	**34,247**	**52,274**	**37,133**
Distraction-affected fatal crashes			
Number of distraction-affected fatal crashes	2,935	2,994	3,166
Percent of total fatal crashes	9%	6%	9%
Cellphone in use in distraction-affected fatal crashes			
Number of cellphone distraction-affected fatal crashes	401	404	434
Percent of fatal distraction-affected crashes	14%	13%	14%

Source: U.S. Department of Transportation, National Highway Traffic Safety Administration.

Distraction was a factor in 9 percent of fatal crashes reported in 2017.

Cellphone use was a factor in 14 percent of the 2,395 fatal distracted-affected crashes but in only 1.2 percent of the total 34,247 fatal crashes reported in 2017.

Motorcycle Helmet Use, 2000-2018[1]

Year	Percent	Year	Percent
2000	71%	2014	64%
2005	48	2015	61
2010	54	2016	65
2012	60	2017	65
2013	60	2018	71

[1]Based on surveys of motorcyclists using helmets meeting Department of Transportation standards. Surveys conducted in October for 2000 and in June thereafter.

Source: U.S. Department of Transportation, National Occupant Protection Use Survey, National Highway Traffic Safety Administration's National Center for Statistics and Analysis.

Motorcycle helmet usage, at 71 percent in June 2018, compared with 65 percent in 2017.

Helmet use was highest in the West, at 84 percent, about the same proportion as in 2017. In the Northeast, helmet use was 71 percent, the same as in 2017.

Helmet use was 75 percent in the South, down from 77 percent in 2017, and 58 percent in the Midwest, up from 41 percent in 2017.

Collision Losses

The chart below shows the claim frequency and average loss payment per claim under collision coverage for recent model vehicles. The claim frequency is expressed as a rate per 100 insured vehicle years. A vehicle year is equal to 365 days of insurance coverage for a single vehicle.

Passenger Vehicle Collision Coverage Insurance Losses, 2016-2018 Model Years

	Claim frequency[1]	Claim severity	Overall loss[2]
Passenger cars and minivans	8.4	$5,949	$501
Pickups	6.2	6,100	380
SUVs	6.5	6,045	393
All passenger vehicles[3]	**7.3**	**$6,005**	**$438**

[1]Per 100 insured vehicle years. [2]Represents the average loss payment per insured vehicle year. [3]Includes claims from cargo/passenger vans.
Source: Highway Loss Data Institute.

MOTOR VEHICLES: THEFT

The FBI includes the theft or attempted theft of automobiles, trucks, buses, motorcycles, scooters, snowmobiles and other vehicles in its definition of motor vehicle theft. About $6 billion was lost to motor vehicle theft in 2018. The average dollar loss per theft was $8,407. Motor vehicles were stolen at a rate of 228.9 per 100,000 people in 2018, down from 237.7 in 2017. In 2018, 748,841 vehicles were stolen, down 3.1 percent from 772,943 vehicles in 2017.

Motor Vehicle Theft In The United States, 2009-2018

Year	Vehicles stolen	Percent change
2009	795,652	-17.0%
2010	739,565	-7.0
2011	716,508	-3.1
2012	723,186	0.9
2013	700,288	-3.2
2014	686,803	-1.9%
2015	713,063	3.8
2016	767,290	7.6
2017	773,139	0.8
2018	748,841	-3.1

Source: U.S. Department of Justice, Federal Bureau of Investigation, *Uniform Crime Reports*.

Although Albuquerque was the top U.S. Metropolitan Statistical Area for motor vehicle theft by theft rates for the second consecutive year, five of the top 10 U.S. Metropolitan Statistical Areas for motor vehicle theft were in California in 2018. The other four were in Alaska, Colorado, Kansas and Missouri.

Top 10 U.S. Metropolitan Statistical Areas By Motor Vehicle Theft Rate, 2018

Rank	Metropolitan Statistical Area[1]	Vehicles stolen	Rate[2]
1	Albuquerque, NM	7,146	780.19
2	Anchorage, AK	3,087	773.40
3	Bakersfield, CA	6,748	752.48
4	Pueblo, CO	1,175	701.37
5	Modesto, CA	3,428	623.48
6	Redding, CA	1,037	575.98
7	Stockton-Lodi, CA	4,287	569.58
8	Wichita, KS	3,547	550.02
9	Vallejo-Fairfield, CA	2,404	538.28
10	St. Joseph, MO-KS	674	532.85

[1]Metropolitan Statistical Areas are designated by the federal Office of Management and Budget and usually include areas much larger than the cities for which they are named. [2]Rate of vehicle thefts reported per 100,000 people based on the 2018 U.S. Census Population Estimates.

Source: National Insurance Crime Bureau.

Top 10 States With The Most And The Fewest Number Of Motor Vehicle Thefts, 2018

Most motor vehicle thefts		
Rank	State	Vehicles stolen
1	California	155,211
2	Texas	69,817
3	Florida	41,165
4	Washington	27,677
5	Georgia	24,760
6	Colorado	21,673
7	Tennessee	20,439
8	Ohio	19,909
9	Missouri	19,815
10	Illinois	19,593

Fewest motor vehicle thefts		
Rank	State	Vehicles stolen
1	Vermont	253
2	Maine	777
3	Wyoming	839
4	New Hampshire	869
5	Delaware	1,476
6	South Dakota	1,524
7	Rhode Island	1,531
8	North Dakota	1,775
9	Idaho	1,964
10	West Virginia	2,519

Source: U.S. Department of Justice, Federal Bureau of Investigation, *Uniform Crime Reports*.

Top 10 Most Frequently Stolen Vehicles, 2018

All model years[1]		
Rank	Model	Thefts
1	Honda Civic	38,426
2	Honda Accord	36,815
3	Ford Pickup (Full size)	36,355
4	Chevrolet Pickup (Full size)	31,566
5	Toyota Camry	16,906
6	Nissan Altima	13,284
7	Toyota Corolla	12,388
8	GMC Pickup (Full size)	11,708
9	Dodge Pickup (Full size)	11,226
10	Jeep Cherokee/Grand Cherokee	9,818

2018 model year vehicles only		
Rank	Model	Thefts
1	GMC Pickup (Full size)	1,170
2	Ford Pickup (Full size)	1,017
3	Toyota Camry	976
4	Nissan Altima	912
5	Chevrolet Pickup (Full size)	790
6	Hyundai Elantra	775
7	Ford Transit	723
8	Dodge Charger	719
9	Toyota Corolla	699
10	Chevrolet Malibu	698

[1]Includes all model years for each vehicle.
Source: National Insurance Crime Bureau.

RECREATION

Watercraft Accidents

Federal law requires owners of recreational boats and watercraft (non-commercial) to register them. In 2018 there were 11.9 million registered recreational watercraft, down 0.9 percent from 2017. A recreational watercraft accident must be reported to the U.S. Coast Guard if a person dies or is injured and requires medical treatment beyond first aid; if damage to the boat or other property exceeds $2,000; if the boat is lost or if a person disappears from the boat.

The U.S. Coast Guard says that alcohol, combined with typical conditions such as motion, vibration, engine noise, sun, wind and spray, can impair a person's abilities much faster than alcohol consumption on land. Operators with a blood alcohol concentration (BAC) above 0.10 grams per deciliter are estimated to be more than 10 times more likely to be killed in an accident than watercraft operators with zero BAC. Alcohol was a contributing factor in 309 recreational watercraft accidents in 2018 (7.5 percent of all accidents), accounting for 119 deaths (18.8 percent of all watercraft deaths) and 275 injuries (11.0 percent of all injuries). Other primary contributing factors were operator inattention, accounting for 50 deaths, and operator inexperience, resulting in 40 deaths.

In 2018, 77 percent of fatal watercraft accident victims died by drowning, and of those, 84 percent were not wearing life jackets.

The most common types of watercraft involved in reported accidents in 2018 were open motorboats (46 percent), personal watercraft (such as Jet Skis, 19 percent) and cabin motorboats (15 percent).

Recreational Watercraft Accidents, 2014-2018[1]

Year	Accidents		Fatalities		Injuries	Property damage ($ millions)
	Total	Involving alcohol use[2]	Total	Involving alcohol use[2]		
2014	4,064	345	610	137	2,678	$39
2015	4,158	306	626	122	2,613	42
2016	4,463	350	701	133	2,903	49
2017	4,291	323	658	118	2,629	46
2018	4,145	309	633	119	2,511	46

[1]Includes accidents involving $2,000 or more in property damage. Includes U.S. territories and offshore accidents. [2]The use of alcohol by a boat's occupants was a direct or indirect cause of the accident.

Source: U.S. Department of Homeland Security, U.S. Coast Guard.

Top 10 States By Recreational Watercraft Accidents, 2018[1]

Rank	State	Accidents	Deaths	People injured	Property damage ($000)
1	Florida	607	57	297	$7,137
2	California	322	34	207	1,970
3	Texas	204	38	123	1,800
4	North Carolina	182	30	108	4,128
5	New York	143	20	93	974
6	South Carolina	130	16	80	1,089
7	Arizona	129	11	74	2,277
8	Ohio	126	17	55	2,921
9	Maryland	122	16	85	1,123
10	Missouri	122	14	99	1,274

[1]Includes accidents involving $2,000 or more in property damage. Includes watercraft such as motorboats and sailboats and personal watercraft.

Source: U.S. Department of Homeland Security, U.S. Coast Guard.

Watercraft Thefts

In 2018 there were 4,499 watercraft thefts in the United States, down 8 percent from 2017, according to an analysis of FBI data by the National Insurance Crime Bureau. The 2018 drop was in line with the downward trend in thefts from 2013 that was broken by 2016's slight increase. Watercraft include motor boats, sailboats, personal watercraft (such as Jet Skis) and other vessels. Of these thefts, 1,733, or 39 percent, were recovered by April 2019. Personal watercraft were the most frequently stolen watercraft, with 1,139 thefts, followed by runabouts (small motorboats) with 529 thefts, utility boats that have outboard power and are used for fishing or as workboats (279 thefts), cruisers, boats with inboard motors at least 25 feet long but no longer than 50 feet (171 thefts) and sailboats (33 thefts). On average, there were 12 watercraft thefts a day in 2018. By month, the highest number of reported thefts were in July (551), while March had the fewest (238).

Florida had the most watercraft stolen in 2018 (1,114), followed by California and Texas with 483 and 378 thefts, respectively. Rounding out the top five were Louisiana (146) and North Carolina (143). Six of the top 10 counties for watercraft theft were in Florida (Miami-Dade, Broward, Hillsborough, Pinellas, Palm Beach and Polk).

Top 10 States By Recreational Watercraft Theft, 2018

Rank[1]	State	Thefts[2]
1	Florida	1,114
2	California	483
3	Texas	378
4	Louisiana	146
5	North Carolina	143
6	Washington	141
7	South Carolina	132
8	Alabama	131
9	Tennessee	127
9	Arkansas	127

[1]States with the same number of watercraft thefts receive the same rank. [2]Watercraft include motorboats and sailboats and other vessels such as Jet Skis.
Source: National Insurance Crime Bureau.

Sports Injuries

According to the National Safety Council (NSC), in 2017 personal exercise, with or without exercise equipment, accounted for some 526,000 injuries in 2017, the most of any category of sports and recreation. Basketball followed with about 500,000 injuries, while bicycling, with 457,000 injuries, and football, with 341,000 injuries, ranked third and fourth.

Concern is growing about the risks of sports-related concussions as lawsuits filed by injured professional football players have generated national headlines. The problem also affects thousands of young people who engage in a variety of sports. According to the NSC, ice hockey accounts for the highest percentage of concussions—12 percent—as the primary diagnosis for injuries treated in emergency departments (EDs). Snowboarding and water tubing followed, with 10 percent and 9 percent of injuries reported as concussion-related. Football and lacrosse followed, both with 8 percent of injuries caused by concussion. The Centers for Disease Control and Prevention reports that in 2016, an estimated 273,272 children (age 17 or younger) were treated in U.S. EDs for nonfatal traumatic brain injuries (TBIs) related to sports and recreation. The 2016 number is down 9.8 percent from a peak of 302,966 in 2012, possibly due to prevention efforts, changes in participation and changes in how care is sought for injured children. In the years from 2010 to 2016, the CDC reports that TBIs that occurred in contact sports accounted for approximately 45 percent of all sports and recreation-related TBI ED visits. Activities associated with the highest number of ED visits were football, bicycling, basketball, playground activities and soccer.

The NSC reports that there were about 199,000 swimming injuries treated in EDs in 2017, with children between the ages of five and 14 suffering the most injuries. A report by the Consumer Product Safety Commission found that between 2016 and 2018, 73 percent of children treated in EDs for pool related nonfatal drowning injuries were younger than five years of age.

Sports Injuries By Number of Injuries, 2017

Sport, activity or equipment	Injuries[1]	Number of injuries by age				
		Younger than 5	5 to 14	15 to 24	25 to 64	65 and older
Exercise, exercise equipment	526,350	7,103	54,407	110,072	282,716	72,052
Basketball	500,085	1,532	181,607	227,216	88,571	1,159
Bicycles and accessories	457,266	17,871	129,620	70,495	201,539	37,740
Football	341,150	876	171,621	136,296	31,972	384
Playground equipment	242,359	57,119	163,689	7,174	12,651	1,726
Soccer	218,926	1,473	98,746	84,016	34,044	647
ATV's, mopeds, minibikes, etc.	214,761	3,501	38,967	54,327	98,860	19,106
Swimming, pools, equipment	199,246	21,304	87,672	30,113	48,282	11,875
Baseball, softball	187,447	3,279	82,772	53,563	44,971	2,862
Trampolines	145,207	26,658	90,671	16,543	11,239	95
Skateboards	98,486	1,403	26,922	47,859	22,073	229
Lacrosse, rugby, misc. ball games	73,829	791	29,629	25,624	12,091	5,694
Skating (excl. in-line)	67,132	575	33,696	11,789	19,374	1,699
Volleyball	51,653	30	17,510	24,086	9,547	481
Horseback riding	48,796	578	8,001	10,295	25,615	4,306
Hockey	44,353	149	13,862	18,333	11,894	115
Track and field activities, equipment	35,938	82	14,091	16,176	5,221	367
Beach, picnic, camping equipment	28,604	3,140	5,450	2,134	12,946	4,933
Racquet sports	28,310	117	4,882	4,615	10,040	8,656
Water skiing, tubing, surfing	20,463	388	3,589	6,260	9,904	322
Nonpowder guns, BB'S, pellets	18,652	1,185	6,679	5,488	5,114	186
Boxing	17,293	157	1,657	8,063	7,400	16
Toboggans, sleds, snow discs, etc.	13,954	1,166	7,662	1,689	3,340	96

[1]Treated in hospital emergency departments.

Source: National Safety Council analysis of U.S. Consumer Product Safety Commission NEISS data. National Safety Council, *Injury Facts®*.

ATV Accidents

Children under the age of 16 accounted for more than 26 percent of all people injured in accidents involving all-terrain vehicles (ATVs) in 2017, according to the Consumer Product Safety Commission. ATVs are open-air vehicles with three, four or six wheels designed for off-road use. Many states require ATV insurance for vehicles operated on state-owned land.

ATV-Related Deaths And Injuries, 2013-2017[1]

	Estimated number of deaths			Estimated number of injuries[2]		
		Younger than 16			Younger than 16	
Year	Total	Number	Percent of total	Total	Number	Percent of total
2013	589	70	12%	99,600	25,000	25%
2014	588	73	12	93,700	24,800	26
2015	585	85	15	97,200	26,700	28
2016	531	63	12	101,200	26,800	26
2017	295	59	20	93,800	24,800	26

[1]ATVs with 3, 4 or unknown number of wheels. Data for deaths for 2015 to 2017 are preliminary. [2]Emergency room-treated.
Source: U.S. Consumer Product Safety Commission.

AVIATION

There were 1,347 civil aviation accidents in 2018, up from 1,315 civil aviation accidents in 2017. Total fatalities rose as well, to 393 in 2018 from 347 in 2017.

In 2018 there was one fatality on a large scheduled commercial airline, ending an eight-year run with no fatalities. There were no fatalities on large nonscheduled airlines (charter airlines) for the fifth consecutive year.

Small commuter airlines had two accidents in 2018, while there were six in 2017. There were no fatalities in 2017 and 2018.

The number of small on-demand airline (air taxi) accidents fell slightly to 41 in 2018, from 44 in 2017. There were 12 fatalities on air taxis in 2018, down from 16 in 2017.

There were 1,275 general aviation (noncommercial) accidents in 2018, up from 1,233 in 2017. 2018 accidents resulted in 381 deaths, up from 331 in 2017.

U.S. Aviation Losses

In the United States the National Transportation Safety Board compiles data on aviation flight hours, accidents and fatalities for commercial and general aviation, which is private transport and recreational flying.

Commercial airlines are divided into two categories according to the type of aircraft used: aircraft with 10 or more seats and aircraft with fewer than 10 seats. The non-scheduled commercial aircraft with more than 10 seats are also called charter airlines. Commercial airlines flying aircraft with fewer than 10 seats include commuter (scheduled) airlines and on-demand air taxis. General aviation includes all U.S. noncommercial or privately owned aircraft.

In fiscal year 2018 there were about 881 million trips on commercial airlines in the United States. The Federal Aviation Administration projects that there will be about 1.2 billion trips on scheduled commercial airlines in the United States annually by 2039.

Aircraft Accidents In The United States, 2018[1]

	Flight hours (000)	Number of accidents		Number of fatalities[2]	Total accidents per 100,000 flight hours
		Total	Fatal		
Commercial airlines					
10 or more seats					
Scheduled	18,731,201	27	1	1	0.144
Nonscheduled	557,095	3	0	0	0.539
Less than 10 seats					
Commuter	421,319	2	0	0	0.475
On-demand	3,842,566	41	6	12	1.067
General aviation[3]	**21,663,367**	**1,275**	**225**	**381**	**5.876**
Total civil aviation	**NA**	**1,347**	**231**	**393**	**NA**

[1]Preliminary data. Totals do not add because of collisions involving aircraft in different categories. [2]Includes nonpassenger deaths. [3]Private transport and recreational flying. NA=Data not available.

Source: National Transportation Safety Board.

Large Airline Accidents In The United States, 2009-2018[1]

Year	Flight hours	Total accidents	Fatal accidents	Total fatalities[2]	Total accidents per 100,000 flight hours
2009	17,626,832	30	2	52	0.170
2010	17,750,986	30	1	2	0.169
2011	17,962,965	33	0	0	0.184
2012	17,722,236	26	0	0	0.147
2013	17,779,641	23	2	9	0.129
2014	17,742,826	31	0	0	0.175
2015	17,925,780	29	0	0	0.162
2016	18,294,057	30	0	0	0.164
2017	18,581,388	32	0	0	0.172
2018[3]	19,288,296	30	1	1	0.156

[1]Scheduled and unscheduled planes with more than 10 seats. [2]Includes nonpassenger deaths. [3]Preliminary.
Source: National Transportation Safety Board.

World Aviation Losses

More than 4 billion people flew safely on 46.1 million flights in 2018, according to the International Air Transport Association. The major global accident rate (as measured by the rate of hull losses on Western-built jets) was 0.19 in 2018, or about one major accident for every 5.4 million flights. The 2018 accident rate was an improvement over the rate for the previous 5-year period (2013-2017) of 0.29 but not as good as the rate of 0.12 in 2017. A hull loss is an accident in which the aircraft is destroyed or substantially damaged and is not subsequently repaired. Western-built aircraft are commercial jet transport aircraft with a maximum certificated takeoff weight of more than 15,000 kg, designed and manufactured in the Western world countries. There were 62 accidents in 2018 (on Eastern- and Western-built aircraft), up from 46 in 2017 and down from 64 in 2016.

World Aviation Accidents, 2014-2018

Year	Accidents[1]		Fatalities[1]	Total accident rate[2]
	Total	Fatal		
2014	77	12	641	0.27
2015	67	4	136	0.33
2016	64	8	198	0.37
2017	46	6	19	0.12
2018	62	11	523	0.19

[1]On Eastern- and Western-built jet aircraft. [2]Measured in hull losses per million flights of Western-built jet aircraft. A hull loss is an accident in which the aircraft is destroyed or substantially damaged and is not subsequently repaired.
Source: International Air Transport Association (IATA).

Top 10 Deadliest World Aviation Crashes

Rank	Date	Location	Country	Operator	Fatalities
1	Mar. 27, 1977	Tenerife	Spain	Pan Am, KLM	583
2	Aug. 12, 1985	Yokota AFB	Japan	JAL	520
3	Nov. 12, 1996	New Delhi	India	Saudi Arabian Airlines, Kazakhstan Airlines	349
4	Mar. 3, 1974	Ermenonville	France	Turkish Airlines	346
5	Jun. 23, 1985	Atlantic Ocean		Air India	329
6	Aug. 19, 1980	Jedda	Saudi Arabia	Saudi Arabian Airlines	301
7	Jul. 17, 2014	Grabovo	Ukraine	Malaysia Airlines	298
8	Jul. 3, 1988	Persian Gulf		Iran Air	290
9	Feb. 19, 2003	Kerman	Iran	Islamic Republic of Iran Air Force	275
10	May 25, 1979	Chicago	U.S.	American Airlines	273

Source: Aircraft Crashes Record Office, Geneva (baaa-acro.com/statistics/worst-crashes).

Drones

Drones are unmanned aircraft systems that are remotely controlled and include small hobbyist models and commercial and military aircraft. The number of small hobbyist drones registered in the United States totaled 1.1 million units in 2019, according to the Federal Aviation Administration (FAA). Commercial drone registrations totaled about 412,000 in 2019. Except for the eight-month period from May 2017 to December 2017, the FAA required owners of hobbyist and commercial drones weighing more than 0.55 pounds and less than 55 pounds to register them and mark them with a registration number, beginning December 2015. Larger drones—weighing more than 55 pounds—must register with the FAA as traditional aircraft.

Insurance coverage

If a drone is damaged in an accident it is most likely covered under a homeowners insurance policy (subject to a deductible). Coverage also applies to renters insurance. The liability portion of a homeowners or renters policy may provide coverage against lawsuits for bodily injury or property damage that a policyholder causes to other people with a drone. It may also cover privacy issues—for example if a drone inadvertently takes pictures of or videotapes a neighbor who then sues the policyholder. It will not cover any intentional invasion of privacy. The policy will cover theft of a drone. Damage or injuries caused by a drone used for commercial (i.e., business) purposes will not be covered by a homeowners policy.

WORKPLACE

Workplace Losses

According to the National Safety Council (NSC), the total cost of unintentional workplace deaths and injuries in 2017 was an estimated $161.5 billion. This figure includes wage and productivity losses of $50.7 billion, medical costs of $34.3 billion and administrative expenses of $52.0 billion. Other employer costs include uninsured losses of $12.4 billion, $4.9 billion in motor vehicle damage and fire losses of $7.3 billion. Economic losses from work injuries are not comparable from year to year; as additional or more precise data become available to the NSC, they are used from that year forward. Previously estimated figures are not revised.

The NSC uses terms such as unintentional deaths and injuries and preventable deaths and injuries to mean those that do not include natural causes of death; or intentional events such as homicides and suicides. This is also to point out that preventable injuries can be avoided, and that these deaths can be eliminated. The NSC data show that the number of workplace fatalities from preventable unintentional injuries has leveled off in 2017 to 4,414, following three consecutive years of increases. In addition, there were 733 homicides and suicides. In 2017 the construction industry suffered the largest number of unintentional injury deaths, followed by transportation and warehousing industries.

Workplace Losses And Deaths, 2008-2017

Year	Workers[3] (000)	Economic loss[1] ($ millions)		Fatalities[2]	
		Dollars when occurred	In 2017 dollars[4]	Number	Per 100,000 workers[5]
2008	146,535	$183,000	$214,595	4,423	3.3
2009	141,102	168,900	192,814	3,744	2.9
2010	140,298	176,900	198,970	3,896	3.0
2011	140,298	188,900	206,354	3,901	3.0
2012	143,709	198,200	212,809	3,903	3.0
2013	145,171	206,100	218,017	3,899	2.9
2014	146,307	140,000	146,983[6]	4,132	3.0
2015	150,031	142,500	148,524	4,190	3.0
2016	152,632	151,000	154,185	4,398	3.1
2017	154,511	161,500	161,500	4,414	3.1

[1]Economic loss from unintentional injuries. These estimates are not comparable from year to year. [2]Preventable deaths from unintentional injuries. [3]Age 16 and over, gainfully employed, including owners, managers and other paid employees, the self-employed, unpaid family workers and active duty resident military personnel. [4]Adjusted to 2017 dollars by the Insurance Information Institute using the Bureau of Labor Statistics' Inflation Calculator. [5]In 2008 the National Safety Council changed the method of calculating deaths per worker from employment-based rates to hours-based rates. As a result data prior to 2008 are not comparable to later data. [6]The 2015 National Safety Council cost estimate model represents a complete redesign and is not comparable to previous cost estimates. The 2014 estimate should be considered a data break from previous years.

Source: Deaths reflect National Safety Council (NSC) analysis of data from the Bureau of Labor Statistics (BLS) Census of Fatal Occupational Injuries (CFOI). Economic loss and fatalities are NSC estimates based on data from BLS. Economic loss in 2017 dollars calculated by the Insurance information Institute using the Bureau of Labor Statistics Inflation Calculator.

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In 2017 the loss per worker for work injuries was $1,100, measured by the value of goods and services each worker must produce to offset the cost of work injuries, as opposed to the average cost of a work-related injury.

Top 10 Private Industry Sectors By Number Of Nonfatal Occupational Injuries And Illnesses, 2018

Rank	Industry	Number (000)	Percent of total private industry
1	Healthcare and social assistance	577.5	20.4%
2	Manufacturing	430.3	15.2
3	Retail trade	409.9	14.5
4	Accommodation and food services	278.6	9.8
5	Transportation and warehousing	221.4	7.8
6	Construction	199.2	7.0
7	Wholesale trade	160.8	5.7
8	Administrative and waste services	118.6	4.2
9	Miscellaneous services	72.7	2.6
10	Professional and technical services	70.5	2.5
	Total, top 10	**2,539.5**	**89.6%**
	Total, private industry	**2,834.5**	**100.0%**

Source: U.S. Department of Labor, Bureau of Labor Statistics.

The top 10 industries combined accounted for 89.6 percent of all injury and illness cases reported among private industry workplaces in 2018.

Top 10 Private Industry Occupations With The Largest Number Of Injuries And Illnesses, 2018[1]

Rank	Occupation	Number	Percent of total
1	Laborers[2]	68,470	7.6%
2	Truck drivers, heavy and tractor-trailer	49,700	5.5
3	Janitors and cleaners	35,620	4.0
4	Nursing assistants	33,430	3.7
5	General maintenance and repair workers	29,370	3.3
6	Retail salespersons	26,760	3.0
7	Stock clerks and order fillers	25,570	2.8
8	Registered nurses	24,080	2.7
9	Light truck and delivery service drivers	22,480	2.5
10	Construction laborers	21,710	2.4
	Total, top 10	**337,190**	**37.4%**
	Total, all occupations	**900,380**	**100.0%**

[1]Nonfatal injuries and illnesses involving days off from work for private industries; excludes farms with fewer than 11 employees. [2]Laborers and freight, stock and material movers.
Source: U.S. Department of Labor, Bureau of Labor Statistics

Causes Of Workplace Deaths

According to the U.S. Department of Labor, the highest rate of workplace fatalities in 2017 was among fishing industry workers, with 99.8 deaths per 100,000 full-time employees, followed by logging workers, aircraft pilots and flight engineers, and roofers. The all-industry average was 3.5 deaths per 100,000 workers.

Workplace Deaths By Selected Cause, 2016-2017[1]

Cause	2016	2017	
	Number	Number	Percent of total
All transportation (includes vehicle crashes)	2,083	2,077	40%
Vehicle crashes[2]	1,252	1,299	25
Falls	849	887	17
Assaults and violence (includes homicides)	866	807	16
Homicides	500	458	9
Contact with objects and equipment	761	695	14
Exposure to harmful substances or environments	518	531	10
Fires and explosions	88	123	2
Total workplace fatalities	**5,190**	**5,147**	**100%**

[1]From intentional and unintentional sources. Data in this chart do not add to total workplace fatalities due to the inclusion of miscellaneous injuries in the total. [2]Roadway incidents involving motorized land vehicles.

Source: U.S. Department of Labor, Bureau of Labor Statistics, Census of Fatal Occupational Injuries.

Asbestos-Related Illness

Exposure to asbestos can cause lung cancer and other respiratory diseases. The first asbestos-related lawsuit was filed in 1966. Many workers who may have physical signs of exposure but not a debilitating disease are filing claims now out of concern that if they later develop an illness, the company responsible may be bankrupt, due to other asbestos claims. It can take as long as 40 years after exposure for someone to be diagnosed with an asbestos-related illness.

Estimated Asbestos Losses, 2009-2018[1] ($ billions)

Year	Beginning reserve	Losses		Ending reserve[3]
		Incurred[2]	Paid	
2009	$20.6	$1.9	$2.0	$20.4
2010	20.5	2.4	2.3	20.6
2011	20.6	1.8	1.8	20.6
2012	20.4	1.9	2.0	20.3
2013	20.4	2.0	2.1	20.3
2014	20.3	1.5	2.4	19.4
2015	19.4	1.7	2.8	18.3
2016	18.6	1.5	3.0	17.1
2017	16.9	1.7	1.8	16.8
2018	16.8	0.8	1.9	15.7

[1]All amounts are net of reinsurance recoveries. [2]Incurred losses are losses related to events that have occurred, regardless of whether or not the claims have been paid, net of reinsurance. Includes loss adjustment expenses. [3]Because of changes in the population of insurers reporting data each year, the beginning reserve may not equal the ending reserve of the prior year.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

In 2018 incurred asbestos losses fell 52 percent to $0.8 billion from $1.7 billion in 2017.

HOME

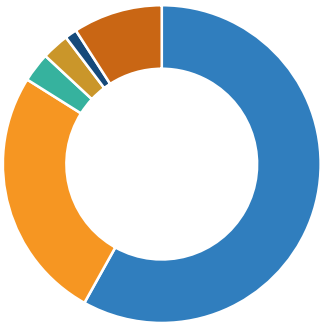
In 2017, 25.3 million Americans experienced an unintentional injury in the home that required aid from a medical professional, according to an analysis by the National Safety Council (NSC). Injuries requiring medical attention occur more often at home than in public places, the workplace and motor vehicle crashes combined, according to the NSC. There were 90,200 deaths from unintentional home injuries in 2017. The overall death rate has remained almost unchanged over the past 100 years, falling to 27.7 deaths per 100,000 people in 2017 from 28 deaths per 100,000 people in 1912. However, the number and rate of unintentional home injury deaths has increased by 156 percent since 1999, largely due to increases in unintentional poisonings and falls. Drug overdoses are largely responsible for the poisoning deaths and there has been an increase in older adult falls.

Unintentional Home Deaths And Injuries, 2017

Deaths	90,200
Medically consulted injuries	25,300,000
Death rate per 100,000 population	27.69
Costs	$314.8 billion

Source: National Safety Council estimates based on data from National Center for Health Statistics and state vital statistics departments.

Principal Types Of Home Unintentional Injury Deaths, 2017



Poisoning	52,400	58.1%
Falls	23,300	25.8
Choking[1]	2,700	3.0
Fire, flames or smoke	2,500	2.8
Drowning	1,100	1.2
Other	8,200	9.1
Total	**90,200**	**100.0%**

[1]Inhalation and ingestion of food or other object that obstructs breathing.

Source: National Safety Council estimates based on data from National Center for Health Statistics and state vital statistics departments.

CAUSES OF DEATH

Mortality risks

Heart disease is the leading cause of death in the United States, accounting for 647,457 fatalities in 2017, according to the Centers for Disease Control and Prevention. Age-adjusted death rates (which factor out differences based on age) increased significantly in 2017, compared with 2016 for 10 out of the 15 leading causes of death. However, there was a significant decrease in the 2017 death rate for cancer.

Influenza and pneumonia ranked eighth in 2017, with 55,672 fatalities. However, pandemic influenza viruses have the potential to be far more deadly. An estimated 675,000 Americans died during the 1918 Spanish influenza pandemic, the deadliest and most infectious known influenza strain to date.

Top 15 Major Causes of Death, 2017

Rank	Cause of death	Number of deaths	Age-adjusted death rate[1]	
			Rate	Percent change from 2016
1	Heart disease	647,457	165.0	-0.3%
2	Malignant neoplasms (tumors)	599,108	152.5	-2.1
3	Accidents (unintentional injuries)	169,936	49.4	4.2
4	Chronic lower respiratory diseases	160,201	40.9	0.7
5	Cerebrovascular diseases (stroke)	146,383	37.6	0.8
6	Alzheimer's disease	121,404	31.0	2.3
7	Diabetes	83,564	21.5	2.4
8	Influenza and pneumonia	55,672	14.3	5.9
9	Kidney disease	50,633	13.0	-0.8
10	Intentional self-harm (suicide)	47,173	14.0	3.7
11	Chronic liver disease and cirrhosis	41,743	10.9	1.9
12	Septicemia	40,922	10.6	-0.9
13	Hypertension[2]	35,316	9.0	4.7
14	Parkinson's disease	31,963	8.4	5.0
15	Pneumonitis due to solids and liquids	20,108	5.1	-1.9
	All other causes	**561,920**	**NA**	**NA**
	All deaths	**2,813,503**	**731.9**	**0.4%**

[1]Per 100,000 population; factors out differences based on age. [2]Essential (primary) hypertension and hypertensive renal disease.
NA=Not applicable.
Source: National Center for Health Statistics.

Gun Deaths And Injuries

The number of U.S. deaths by firearms, which are defined as the types of guns that can be carried by a person, is higher than the number of Americans killed in motor vehicle crashes. In 2017 about 39,800 people died by firearms, up 2.9 percent from 38,658 deaths in 2016. According to latest data from the National Highway Traffic Administration, 37,473 people died in U.S. motor vehicle crashes in 2017. The majority of firearms deaths in 2017 were attributable to suicide, almost 24,000 or 60 percent of total deaths by firearms. About 14,500 people died from assaults, or close to 40 percent.

The economic cost of gun violence is significant. A 2019 report by the Joint Economic Committee of the United States Congress found that the annual cost of gun violence to the U.S. economy is $229 billion, or 1.4 percent of gross domestic product. The study, based on data from the Giffords Law Center to Prevent Gun Violence and the U.S. Centers for Disease Control, classified the economic cost of gun violence into two parts: direct and indirect measurable costs. Direct measurable costs include lost income and spending, employer costs, police and criminal justice responses and health care treatment. Indirect costs include the reduced quality of life resulting from pain and suffering. Among the states, the three largest states, California, Texas and Florida, incurred the largest absolute costs. Rural states, notably Mississippi, Alabama, Arkansas, Louisiana and West Virginia, have the highest costs of gun violence measured as a share of their economies. Two studies, released in 2017, described the cost of hospitalizations for firearms injuries. One study from the American Journal of Public Health published in May 2017 showed that between 2006 and 2014, the costs and financial burden for initial hospitalizations from firearm injuries averaged $735 million each year. In an October 2017 report, researchers at Johns Hopkins found that over the same eight years, firearms-related injuries cost about $2.8 billion in emergency department and inpatient care each year. Neither study included follow-up costs, such as the cost of readmissions, rehabilitation, disability, home medications or loss of work.

Deaths By Firearms, 2016 And 2017

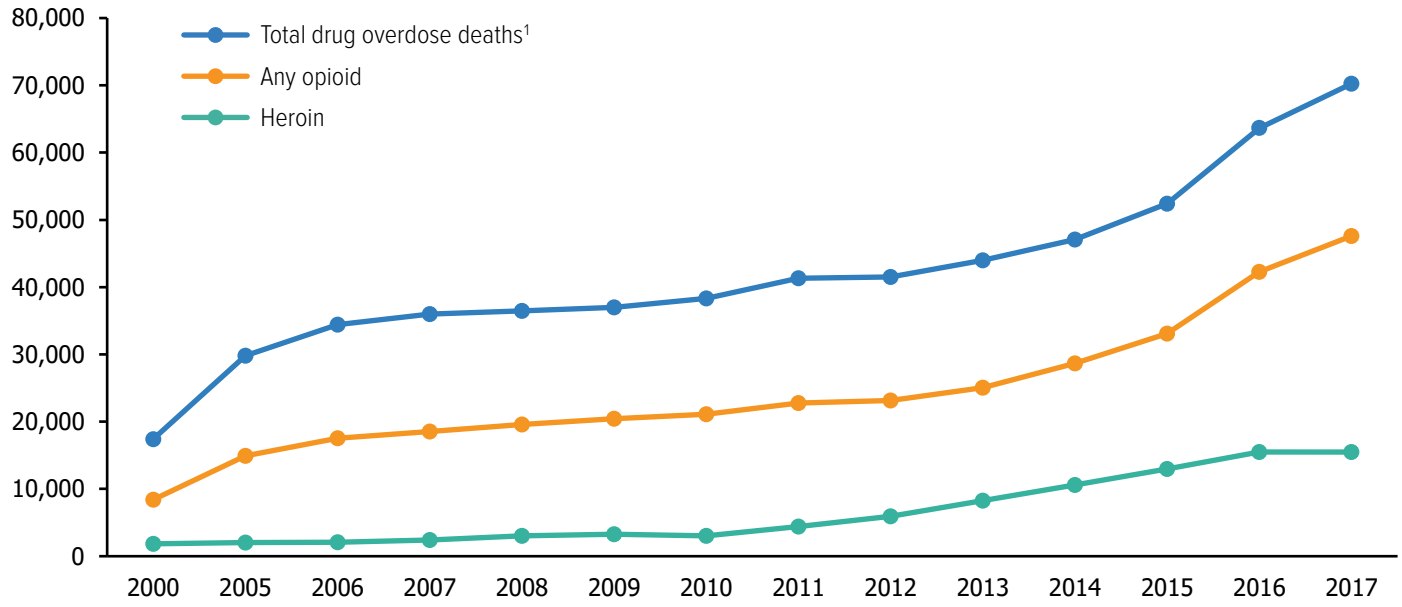
	Number		Percent of total	
Deaths caused by firearms[1]	2016	2017	2016	2017
Accidental discharge of firearms	495	486	1.3%	1.2%
Suicide by firearm	22,938	23,854	59.3	60.0
Assault (homicide) by firearm	14,415	14,542	37.3	36.6
Legal intervention	510	553	1.3	1.4
Undetermined intent	300	338	0.8	0.8
Total	**38,658**	**39,773**	**100.0%**	**100.0%**

[1]The term firearms refers to guns that can be carried by a person and does not refer to larger classes of guns.
Source: Centers for Disease Control and Prevention, National Vital Statistics Report.

The Opioid Crisis In The United States

Opioid abuse and addiction is recognized as a significant public health problem in the United States. Drug overdose, from prescription and illegal drugs combined, is the leading cause of injury death in the United States. Between 2000 and 2017 deaths from drug overdoses increased four-fold from 17,415 in 2000 to 70,237 in 2017, according to the Centers for Disease Control and Prevention (CDC). Opioid analgesics, a group of prescription drugs that are used to alleviate chronic and acute pain, have been increasingly involved in the rise of drug overdose deaths over the same period. In 2000 there were 8,407 deaths attributed to opioids of all kinds, with prescription drugs and illegal drugs such as heroin, accounting for about half of all drug overdose deaths. By 2017 that proportion had grown to close to 70 percent. Heroin alone accounted for 11 percent of all drug overdose deaths in 2000 and grew to 22 percent in 2017.

Number Of Drug Overdose Deaths, 2000-2017



[1]Drug overdose caused by prescription and illegal drugs.
Source: Centers for Disease Control and Prevention, National Center for Health Statistics.

A June 2017 report issued by the Blue Cross Blue Shield Association found that diagnoses of opioid-use disorder (addiction to opioids, including prescription painkillers and illegal narcotics such as heroin) increased almost 500 percent between 2010 and 2016. The study examined claims from 30 million people who had commercial insurance provided by Blue Cross Blue Shield insurers. For short-duration use, the study found that that opioid-use disorder was 40 times more likely in patients prescribed high doses for a short duration, compared with low doses for a short duration. For long-duration use, opioid-use disorder was seven times more likely when patients were prescribed a high dose for a long duration, rather than a low dose for a long duration. In addition, 21 percent of Blue Cross and Blue Shield commercially-insured members filled at least one opioid prescription in 2015, according to the report.

Many states and municipalities have filed lawsuits against the pharmaceutical companies that they hold responsible for the current opioid epidemic. The lawsuits are an attempt to seek reimbursement for healthcare expenses, substance abuse treatment, social services, court and correctional expenses and other costs resulting from opioid abuse. In 2018 around 2,300 lawsuits against opioid manufacturers, distributors and pharmacies were consolidated under one federal judge. The plaintiffs included almost 200 municipal governments, all pursuing reimbursement for the costs of drug addiction and its collateral damage. One case, the State of Oklahoma v. Purdue Pharma, ended in March as the company and its owners, the Sackler family, ultimately agreed to pay $270 million. This was the first class action settlement related to opioid litigation. In October 2019, the court of the Northern District of Ohio was set to try three consolidated Ohio lawsuits in a test case against four entities—three distributors and one manufacturer. The case was ultimately settled for $260 million, with the money set to help fight opioid addiction.

Chapter 9

Factors Affecting Costs

COST OF GOODS AND SERVICES

The Bureau of Labor Statistics *Consumer Expenditures Survey* describes the buying habits of American consumers, using household expenditure records and surveys. Expenditures include goods and services purchased, whether or not payment was made at the time of purchase and all sales and excise taxes.

Income, age of family members, geographic location, taste and personal preference influence expenditures. Location often affects the cost of auto and homeowners insurance. Rural households spend less than urban households on auto insurance; regional variations in residential building costs and vulnerability to natural catstrophes affect spending on homeowners insurance. In addition to the number and types of cars, where they are driven and by whom, auto insurance prices are influenced by such factors as the degree of competition in the marketplace and how claimants are compensated, i.e., through the no-fault or traditional tort systems.

Insurance And Other Consumer Expenditures As A Percent Of Total Household Spending, 1990-2018[1]

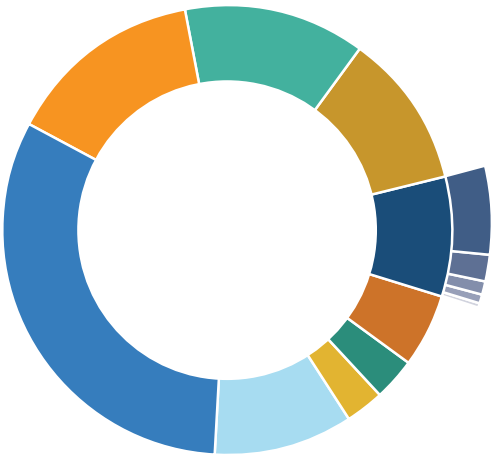
	1990	1995	2000	2005	2010	2015	2017	2018
Housing[2]	30.0%	31.7%	31.7%	31.9%	33.7%	32.1%	32.3%	32.0%
Transportation[2]	15.9	16.4	17.5	16.0	13.9	15.0	14.3	14.3
Food	15.0	14.0	13.6	12.8	12.7	12.5	12.9	12.9
Retirement[3]	8.8	8.0	7.8	10.4	10.5	10.7	10.6	11.2
Other	10.6	10.2	10.5	10.4	10.4	10.1	10.2	10.0
Total insurance	5.8	6.8	6.3	6.5	7.3	8.7	8.8	8.7
Health	2.0	2.7	2.6	2.9	3.8	5.3	5.7	5.6
Vehicle	2.0	2.2	2.0	2.0	2.1	1.9	1.6	1.6
Homeowners and tenants	0.5	0.7	0.7	0.7	0.8	0.8	0.8	0.8
Life	1.2	1.1	1.0	0.8	0.6	0.6	0.6	0.7
Other insurance	0.1	0.1	0.1	0.1	[4]	[4]	0.1	0.1
Entertainment	5.0	5.0	4.9	5.1	5.2	5.1	5.3	5.3
Clothing	5.7	5.3	4.9	4.1	3.5	3.3	3.1	3.0
Healthcare[2]	3.1	2.7	2.8	2.8	2.8	2.4	2.5	2.6

[1]Ranked by 2018 expenditures. [2]Excludes insurance. [3]Mostly payroll deductions for retirement purposes such as Social Security (74 percent of retirement expenditures), government and private pension plans (11 percent) and nonpayroll deposits such as IRAs (15 percent) in 2018. [4]Less than 0.1 percent.

Note: Percentages may not add to 100 percent due to rounding.

Source: U.S. Department of Labor, Bureau of Labor Statistics.

Insurance Expenditures As A Percentage Of Total Household Spending, 2018



Housing	32.0%
Transportation	14.3
Food	12.9
Retirement	11.2
All Insurance	8.7
Health	5.6
Vehicle	1.6
Homeowners[1]	0.8
Life	0.7
Other	0.1
Entertainment	5.3
Clothing	3.0
Healthcare	2.6
Other	10.0

[1]Includes tenants insurance.
Note: Percentages may not add up to 100 percent due to rounding.
Source: U.S. Department of Labor, Bureau of Labor Statistics.

Insurance accounted for 8.7 percent of household spending in 2018, about the same as in 2017. Of this, the share spent on health insurance dropped 0.1 percentage point, while the vehicle insurance share was unchanged at 1.6 percent. The share spent on life insurance rose 0.1 percentage point, while the share spent on homeowners insurance remained the same.

Consumer Prices

The Bureau of Labor Statistics consumer price index (CPI) tracks changes in the prices paid by consumers for a representative basket of goods and services. The cost of living (all items) rose 2.4 percent in 2018. The cost of motor vehicle insurance and hospital services rose faster (7.4 percent and 4.4 percent, respectively). The cost of tenants and household insurance rose 1.3 percent, and medical care rose 2.0 percent.

Consumer Price Indices For Insurance And Related Items And Annual Rates Of Change, 2009-2018

(Base: 1982-84=100)

Year	Cost of living (all items)		Motor vehicle insurance		Medical care items		Physicians' services		Hospital services[1]	
	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change
2009	214.5	-0.4%	357.0	4.5%	375.6	3.2%	320.8	3.0%	210.7	6.9%
2010	218.1	1.6	375.2	5.1	388.4	3.4	331.3	3.3	227.2	7.8
2011	224.9	3.2	388.7	3.6	400.3	3.0	340.3	2.7	241.2	6.2
2012	229.6	2.1	402.5	3.6	414.9	3.7	347.3	2.1	253.6	5.1
2013	233.0	1.5	419.4	4.2	425.1	2.5	354.2	2.0	265.4	4.7
2014	236.7	1.6	437.2	4.2	435.3	2.4	359.1	1.4	278.8	5.0
2015	237.0	0.1	460.6	5.4	446.8	2.6	366.1	1.9	290.1	4.1
2016	240.0	1.3	489.1	6.2	463.7	3.8	378.1	3.3	303.3	4.5
2017	245.1	2.1	526.9	7.7	475.3	2.5	380.1	0.5	318.2	4.9
2018	251.1	2.4	566.0	7.4	484.7	2.0	380.5	0.1	332.2	4.4
Percent change, 2009-2018		**17.0%**		**58.5%**		**29.0%**		**18.6%**		**57.7%**

Year	Motor vehicle body work		New vehicles		New cars		New trucks[2]	
	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change
2009	248.5	3.7%	135.6	1.1%	136.7	0.9%	138.8	1.3%
2010	254.4	2.4	138.0	1.8	138.1	1.0	142.7	2.8
2011	259.9	2.2	141.9	2.8	142.2	3.0	146.5	2.7
2012	264.9	1.9	144.2	1.7	144.2	1.4	149.4	1.9
2013	271.0	2.3	145.8	1.1	144.9	0.5	151.8	1.6
2014	278.0	2.6	146.3	0.3	144.5	-0.3	153.6	1.1
2015	280.8	1.0	147.1	0.6	144.4	-0.1	155.4	1.2
2016	287.6	2.4	147.4	0.2	143.7	-0.5	156.4	0.6
2017	294.5	2.4	147.0	-0.2	142.7	-0.7	156.6	0.1
2018	302.7	2.8	146.3	-0.5	142.0	-0.5	155.8	-0.5
Percent change, 2009-2018		**21.8%**		**7.9%**		**3.9%**		**12.2%**

(table continues)

Consumer Price Indices For Insurance And Related Items And Annual Rates Of Change, 2009-2018 (Cont'd)

(Base: 1982-84=100)

Year	Used cars and trucks		Tenants and household insurance[3,4]		Repair of household items[3,5]		Legal services		Existing single-family homes	
	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Median price ($000)	Percent change
2009	127.0	-5.2%	121.5	2.2%	176.0	3.5%	278.1	2.7%	$172	-13.1%
2010	143.1	12.7	125.7	3.5	181.7	3.2	288.1	3.6	173	0.6
2011	149.0	4.1	127.4	1.4	NA	NA	297.4	3.2	166	-4.0
2012	150.3	0.9	131.3	3.1	198.7	NA	303.5	2.0	177	6.6
2013	149.9	-0.3	135.4	3.1	206.7	4.0	311.8	2.8	197	11.3
2014	149.1	-0.5	141.9	4.8	212.4	2.8	318.5	2.1	208	5.6
2015	147.1	-1.3	146.4	3.2	220.1	3.6	323.6	1.6	224	7.7
2016	143.5	-2.5	147.7	0.9	226.3	2.8	334.5	3.4	236	5.4
2017	138.3	-3.6	148.8	0.7	239.3	5.8	346.4	3.6	249	5.5
2018	138.4	0.1	150.7	1.3	253.7	6.0	361.2	4.3	262	5.2
Percent change, 2009-2018		**9.0%**		**24.1%**		**44.1%**		**29.9%**		**52.3%**

[1]December 1996=100. [2]December 1983=100. [3]December 1997=100. [4]Only includes insurance covering rental properties. [5]Includes appliances, reupholstery and inside home maintenance. NA=Data not available

Note: Percent changes are calculated from unrounded data.

Source: U.S. Department of Labor, Bureau of Labor Statistics; National Association of Realtors.

FRAUD

Insurance fraud is a deliberate deception perpetrated against or by an insurance company or agent for the purpose of financial gain. Fraud may be committed at different points in the insurance transaction by applicants for insurance, policyholders, third-party claimants or professionals who provide services to claimants. Insurance agents and company employees may also commit insurance fraud. Common frauds include padding, or inflating actual claims, misrepresenting facts on an insurance application, submitting claims for injuries or damage that never occurred and staging accidents.

Size Of The Problem

The exact amount of fraud committed is difficult to determine. In the late 1980s, the Insurance Information Institute interviewed claims adjusters and concluded that fraud accounted for about 10 percent of the property/casualty (P/C) insurance industry's incurred losses and loss adjustment expenses each year. Using this measure, in the past two years, 2017 to 2018, P/C fraud amounted to about $36 billion each year. The figure can fluctuate based on line of business, economic conditions and other factors. The nature of fraud is constantly evolving.

Insurance fraud is the second costliest white collar crime, according to the National Insurance Crime Bureau (NICB), trailing only tax evasion. The NICB is a not-for-profit organization that works with insurers and law enforcement to identify, detect and prosecute insurance crime, including insurance fraud. The bureau fosters fraud awareness, see nicb.org.

The Insurance Research Council (IRC) estimated that between $5.6 billion and $7.7 billion was fraudulently added to paid claims for auto insurance bodily injury payments in 2012, compared with a range of $4.3 billion to $5.8 billion in 2002. The IRC studied more than 35,000 auto injury claims closed with payment and reported the results in its 2016 report, *Fraud and Buildup in Auto Injury Claims*. Fraud accounted for between 15 percent and 17 percent of total claims payments for auto insurance bodily injury.

Fighting Insurance Fraud

Insurers are at the front line in combating insurance fraud despite the increase in the number of states that have passed laws to criminalize the practice. By 2016 every state and Washington, D.C. had enacted laws that classify fraud as a crime at least for some lines of insurance and have instituted immunity for reporting insurance fraud. By late 2019, 44 states and the District of Columbia had fraud bureaus or divisions where fraud can be reported, investigated and prosecuted. Twenty-two states and the District of Columbia required insurers to create and implement programs to reduce insurance fraud. Many property/casualty insurers have created Special Investigative Units within their companies. These use specially trained professionals to examine suspicious claims, then work with law enforcement officials and organizations like the NICB to catch perpetrators.

One of the most effective means of combating fraud is the adoption of data technologies that cut the time needed to recognize fraud. Advances in analytical technology are crucial in the fight against fraud to keep pace with sophisticated rings that constantly develop new scams. According to a company that develops insurance fraud analytics, insurers typically see evidence of organized staged accidents shortly after they start a direct internet channel for their customers. These websites allow criminals to exploit loopholes in consumer applications and underwriting and they test the systems by filing many applications and observing which ones are flagged for additional information.

Traditional approaches such as using automated red flags and business rules have been augmented by predictive modeling link analysis, which examines the relationships between items like people, places and events. In some cases artificial intelligence is used, among other tools, to uncover fraud before a payment is made. These newer strategies are employed when claims are first filed. Suspicious claims are flagged for further review, while those with no suspicious elements are processed normally. In search of refinement, insurers are blending tools to improve their fraud detection programs. Programs that can scan many insurance claims have been enhanced by the consolidation of insurance industry claims databases, such as ClaimSearch, from the Insurance Services Office (ISO), the world's largest comprehensive database of claims information. Systems that identify anomalies in a database can be used to develop algorithms that enable an insurer to automatically stop claim payments.

A 2019 report published by the Coalition Against Insurance Fraud and the SAS Institute, *State of Insurance Fraud Technology*, tracks insurer use of technology and their strategies and plans for antifraud technology. The study was based on an online survey of 84 mostly property/casualty insurers conducted in late 2018. Nearly three-quarters of the survey participants said fraud had increased either significantly or slightly in the previous three years, an 11-point increase since 2014. Further, in the last six years, no insurer has said that fraud has decreased significantly.

About 40 percent of insurers polled said their technology budgets for 2019 would be larger, with predictive modeling and link or social network analysis the two most likely types of programs considered for investment. About 90 percent of respondents said they use technology primarily to detect claims fraud, a significant increase from 2016, and about half said they use it to combat underwriting fraud, up from 27 percent in 2016. The greatest challenges for insurers are limited IT resources, affecting about three-quarters of insurers, about the same as in 2016, followed by problems in data integration, with 76 percent reporting the problem, up from 64 percent in 2016.

Insurers are prioritizing combating fraud. FRISS, an international company that provides fraud detection solutions to nonlife insurance companies, found that 72 percent of insurers worldwide have a fraud-fighting culture, but only a third have a zero-tolerance policy against fraud. These findings are from its 2019 Insurance Fraud Survey, which polled more than 150 insurance professionals globally. About a third of its respondents said that they would rather prevent fraud than cure it, and about the same proportion use active fraud management. The remainder were not sure what approach to take or use no approach or another approach. More than 60 percent have a special investigative unit. Sixty-eight percent of insurers said that claims departments should be more engaged in fighting fraud, and 43 percent said that underwriting departments should be more engaged. FRISS says that all insurance companies would benefit by building insurance pools to join forces and share information. Such a system would track and control organized fraud and prevent criminals from going from one country to another and from one insurer to another.

Curbing Florida's Assignment of Benefits Abuse

In 2019 legislators in Florida tackled the assignment of benefits (AOB) issue that had been plaguing the insurance industry for many years by passing AOB reform legislation that became law on July 1, 2019. At issue was the practice where a policyholder grants a third party–an auto glass repair company, a medical practitioner, or a home contractor–permission to directly bill an insurer to settle a claim. In Florida, abuse of AOBs fueled an insurance crisis. The pre-reform legal environment encouraged vendors and their attorneys to solicit unwarranted AOBs from tens of thousands of Floridians, conduct unnecessary or unnecessarily expensive work, then file tens of thousands of lawsuits against insurance companies that deny or dispute the claims. This mini-industry cost consumers billions of dollars as they were forced to pay higher premiums to cover needless repairs and excessive legal fees. The problem was once limited to personal injury protection (PIP) claims in personal auto insurance but then spread to homeowners insurance and auto glass coverage. There were roughly 1,300 AOB lawsuits statewide in 2000. There were more than 79,000 in 2013 and more than 153,000 in 2018, a 94 percent increase in just five years, according to the Insurance Information Institute's March 2019 report, *Florida's assignment of benefits crisis*.

Before the new law, insurers were forced to pay all attorney fees in a contractor's AOB suit—even when the contractor prevailed for any amount above the insurer's pre-suit offer. One of the provisions of the new law mandates that insurers no longer must pay all attorney fees in AOB suits by contractors. A sliding scale now determines attorney fees. Other provisions are a mandatory 10-day notice by contractor AOB holders before filing suit—including notifying the named insured; allowing insurers to issue certain policies containing restricted or no assignment rights; and requiring insurers to report AOB claims and settlements to the Department of Insurance to monitor the new law's impact on insurance rates and lawsuit filings, according to the Coalition Against Insurance Fraud.

LITIGIOUSNESS

Insurers' Legal Defense Costs

Lawsuits against businesses affect the cost of insurance and the products and services of the industries sued. Travelers Insurance's *2017 Business Risk Index* showed that legal liability was the fourth-highest rated worry for business leaders in the United States, same as in 2016. Of 1,203 business managers surveyed, 55 percent indicated they worry about it somewhat or a great deal, about the same as the 56 percent who felt that way in 2016.

The U.S. Chamber of Commerce Institute for Legal Reform (ILR) has found that U.S. litigation costs reached 2.3 percent of gross domestic product (GDP) in 2016. Analysts used data on liability insurance premiums and estimates of the liability exposure of uninsured or self-insured businesses and individuals to determine the total cost of litigation. Costs and compensation paid in the tort system totaled $429 billion. This total is comprised of $250 billion from general and commercial liability exposure, which includes personal injury, consumer and other litigation; $160 billion stemming from liability related to auto accident claims and $19 billion from medical malpractice litigation. The study also found that 57 percent of the tort system costs and compensation was paid out in compensation to plaintiffs.
The remainder—43 percent—was the cost of litigation of both sides and includes the operation costs for insurers.

Tort costs and compensation vary significantly among the states, and in the most expensive states can be up to 2.1 times larger than in the least expensive states. One example is Florida, which has the highest tort system costs—3.6 percent of its GDP—compared with Alaska, Washington and Wyoming which have tort costs of less than 1.8 percent. Also of note, Maine, North Carolina and South Dakota have about $2,000 in tort costs per household. New York has $6,066 in tort costs per household, the highest of any state, followed by California, Florida and New Jersey. In Washington D.C., per household tort costs were even higher—$6,257.

Tort Costs And Compensation Paid By State, 2016[1]

Rank[2]	State/territory	Total tort costs[3] ($ millions)	Total tort costs as percent of state GDP[4]	Tort costs per household (dollars)[5]
1	D.C.	$1,760	1.4%	$6,257
2	New York	43,730	2.9	6,066
3	New Jersey	17,734	3.1	5,551
4	Delaware	1,890	2.7	5,383
5	Connecticut	6,209	2.4	4,574
6	Florida	33,645	3.6	4,442
7	California	55,966	2.1	4,324
8	Nevada	4,507	3.0	4,272
9	Rhode Island	1,660	2.9	4,066
10	Louisiana	6,909	2.9	4,015
11	Massachusetts	9,980	2.0	3,869
12	Illinois	18,026	2.3	3,738
13	Pennsylvania	18,374	2.5	3,721
14	Colorado	7,672	2.4	3,638
15	Georgia	13,384	2.5	3,631
16	Hawaii	1,629	1.9	3,573
17	Texas	33,704	2.1	3,535
18	Utah	3,285	2.1	3,483
19	Maryland	8,032	2.1	3,360
20	Montana	1,329	2.9	3,195
21	Alaska	771	1.5	3,105
21	Oregon	4,879	2.1	3,105
23	Missouri	7,352	2.5	3,099
24	Washington	8,501	1.8	3,071
25	Vermont	780	2.5	3,061
26	Michigan	11,846	2.4	3,050
27	New Mexico	$2,273	2.4%	$2,998
28	Oklahoma	4,246	2.3	2,890
29	Minnesota	6,173	1.8	2,873
30	Arkansas	3,265	2.7	2,857
31	Arizona	7,122	2.3	2,827
32	Tennessee	7,204	2.2	2,818
33	Nebraska	2,103	1.8	2,813
34	South Carolina	5,261	2.5	2,802
35	West Virginia	2,019	2.8	2,796
36	Alabama	5,122	2.5	2,765
37	Virginia	8,439	1.7	2,704
38	New Hampshire	1,405	1.8	2,698
39	Mississippi	2,921	2.7	2,676
40	Wyoming	598	1.6	2,675
41	Iowa	3,316	1.8	2,657
42	Indiana	6,644	1.9	2,623
43	Kentucky	4,479	2.3	2,608
44	North Dakota	806	1.5	2,557
45	Idaho	1,519	2.2	2,486
46	Kansas	2,744	1.8	2,471
47	Wisconsin	5,734	1.8	2,464
48	Ohio	11,166	1.8	2,414
49	South Dakota	791	1.6	2,369
50	North Carolina	8,900	1.7	2,292
51	Maine	1,163	2.0	2,187
	United States	**$428,966**	**2.3%**	**$3,329**

[1]Ranked on tort costs per household. [2]States that have the same tort costs receive the same ranking. [3]Includes general, professional, homeowners, and personal and commercial automobile liability tort costs. [4]Gross domestic product. [5]2016 state household estimates from the U.S. Bureau of the Census.

Source: U.S Chamber of Commerce Institute for Legal Reform.

Insurers are required to defend their policyholders against lawsuits. The costs of settling a claim are reported on insurers' financial statements as defense and cost containment expenses incurred. These expenses include defense, litigation and medical cost containment. Expenditures for surveillance, litigation management and fees for appraisers, private investigators, hearing representatives and fraud investigators are included. In addition, attorney legal fees may be incurred owing to a duty to defend, even when coverage does not exist, because attorneys must be hired to issue opinions about coverage. Insurers' defense costs as a percentage of incurred losses are relatively high in lines such as product liability and medical malpractice, reflecting the high cost of defending certain types of lawsuits, such as medical injury cases and class-actions against pharmaceutical companies. For example, in 2018, in addition to $1.3 billion in product liability incurred losses, insurers spent $861 million on settlement expenses, equivalent to 66.4 percent of the losses.

Defense Costs And Cost Containment Expenses As A Percent of Incurred Losses, 2016-2018[1] ($000)

	2016		2017		2018	
	Amount	As a percent of incurred losses	Amount	As a percent of incurred losses	Amount	As a percent of incurred losses
Product liability	$844,606	102.5%	$645,190	68.6%	$861,155	66.4%
Medical professional liability	1,920,552	50.3	1,660,939	43.7	1,690,271	41.8
Commercial multiple peril[2]	2,152,076	35.0	2,117,223	34.8	2,276,024	31.2
Other liability	4,066,992	15.4	5,167,731	21.9	4,573,280	14.9
Workers compensation	3,270,001	3.7	2,956,635	3.3	3,065,540	3.3
Commercial auto liability	1,487,106	9.9	1,746,182	11.2	1,823,716	10.2
Private passenger auto liability	5,008,575	20.9	5,380,006	24.8	6,007,796	27.9
All liability lines	**$18,749,908**	**11.4%**	**$19,673,906**	**12.1%**	**$20,297,782**	**11.6%**

[1]Net of reinsurance, excluding state funds. [2]Liability portion only.
Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Personal Injury Awards

Most lawsuits are settled out of court. Of those that are tried and proceed to verdict, Jury Verdict Research data from Thomson Reuters show that in 2017 (latest data available) the median (or midpoint) award in personal injury cases was $125,000, up from $100,000 in 2016. The average award also rose in 2017 and was $1,847,438 compared with $1,356,325 in 2016. Thomson Reuters notes that average awards can be skewed by a few very high awards and that medians are more representative.

In cases of product liability the highest median award in 2017 was in medical products cases ($4,002,185). In disputes concerning medical malpractice the highest median award was in childbirth cases ($2,500,000). In lawsuits involving business negligence the highest median award was against manufacturing industries ($922,500).

Awards of $1 million or more accounted for 23 percent of all personal injury awards in 2016 and 2017, higher than the prior two-year period (2014-2015) when 20 percent of all personal injury jury awards amounted to $1 million or more, and in 2011-2013 when 17 percent amounted to $1 million or more. In 2016 and 2017, 79 percent of products liability awards and 56 percent of medical malpractice awards amounted to $1 million or more, the highest proportion of awards, followed by government negligence at 52 percent and business negligence at 30 percent. Personal negligence, premises and vehicular liability cases had the lowest proportions of awards of $1 million or more, at 19 percent, 18 percent and 11 percent, respectively.

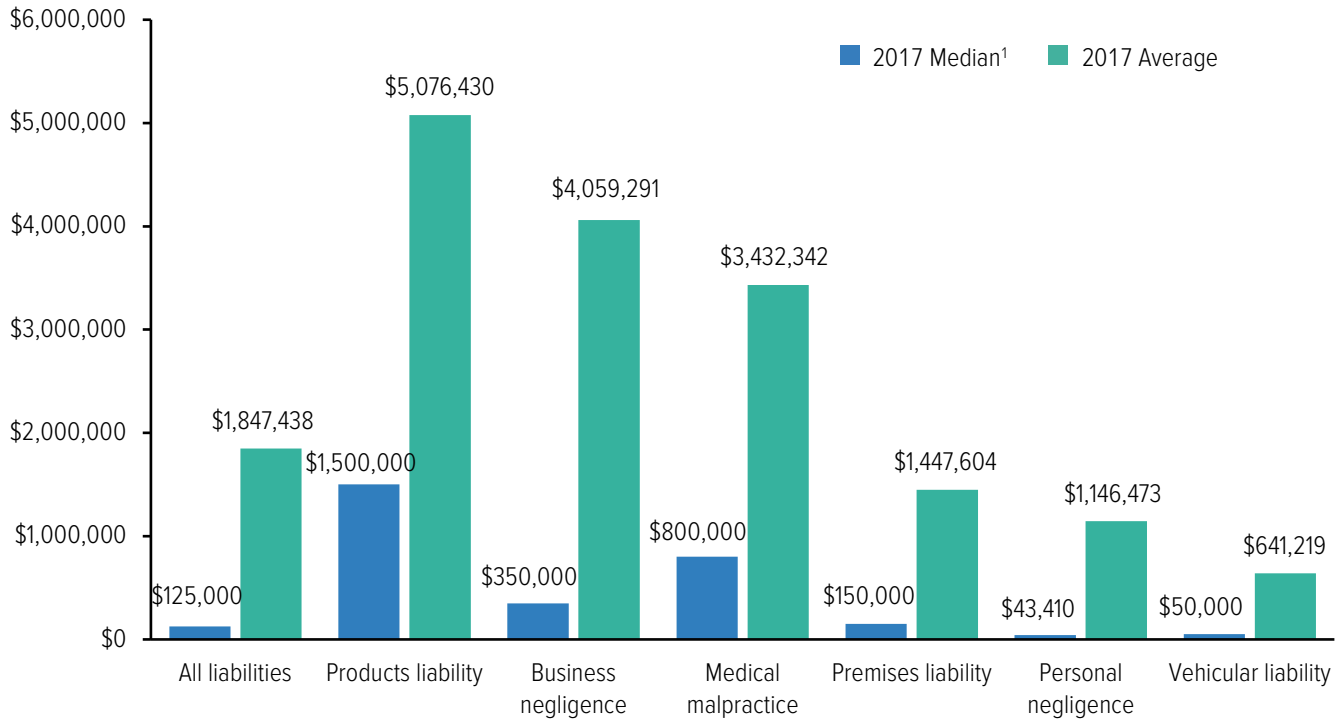
Trends In Personal Injury Lawsuits, 2011-2017[1]

Year	Award median	Probability range[2]	Award range	Award mean
2011	$60,924	$12,268 - $344,060	$1 - $58,619,989	$805,886
2012	75,000	18,987 - 361,092	1 - 155,237,000	1,096,835
2013	70,000	16,000 - 300,000	1 - 165,972,503	1,010,202
2014	75,000	16,026 - 400,000	1 - 172,061,728	1,041,562
2015	87,705	20,000 - 486,306	1 - 88,246,000	1,139,170
2016	100,000	23,025 - 529,614	1 - 115,000,000	1,356,325
2017	125,000	22,689 - 629,499	1 - 160,500,000	1,847,438
Overall	**$81,496**	**$18,000 - $439, 800**	**$1 - $172,061,728**	**$1,183,632**

[1]Excludes punitive damages. [2]The middle 50 percent of all awards arranged in ascending order, 25 percent above and below the median award. The median represents the midpoint jury award. Half of the awards are above the median and half are below. This helps establish where awards tend to cluster.

Source: Reprinted with permission of Thomson Reuters, *Current Award Trends in Personal Injury*, 58th edition.

Median And Average Personal Injury Jury Awards By Type Of Liability, 2017



[1]Represents the midpoint jury award. Half of the awards are above the median and half are below.

Source: Reprinted with permission of Thomson Reuters, *Current Award Trends in Personal Injury*, 58th edition.

Directors And Liability Insurance

Directors and officers liability insurance (D&O) covers directors and officers of a company for negligent acts or omissions and for misleading statements that result in lawsuits against the company. There are various forms of D&O coverage. Side A coverage provides D&O coverage for personal liability when directors and officers who are accused of wrongdoing are not indemnified by the firm. Side B coverage reimburses a corporation for its loss when it indemnifies its directors and officers. Side C provides coverage for claims made specifically against the company. D&O policies may be broadened to include coverage for employment practices liability (EPL). EPL coverage may also be purchased as a stand-alone policy. Corporate reimbursement coverage indemnifies directors and officers of the organization.

In 2018 the D&O liability insurance sector was impacted by lawsuits concerning data breaches and privacy issues and the #MeToo movement, according to the *2019 RIMS Benchmark Survey* from the Risk and Insurance Management Society and Advisen. The coverage is key to ensuring that companies comply with legislation such as the Dodd-Frank Wall Street Reform Act and the Consumer Protection Act.

In 2018, 68 percent of corporations purchased D&O coverage, according to the *2019 RIMS Benchmark Survey* responses from 570 organizations. Information technology companies were the most likely to purchase D&O coverage in 2018, with 96 percent of respondents purchasing the coverage, followed by 83 percent of banks. Education and consumer staples companies followed with 82 percent and 79 percent, respectively, purchasing D&O coverage. Advisen reported that the number of new cases that may be covered by D&O coverage fell in 2017 compared with 2016. Total shareholder risks, an area that encompasses securities class actions, derivative shareholder suits and other suits brought by shareholders, has stayed at relatively constant levels over the four years ending in 2017. Advisen noted that in 2017 alone the number of new merger objection cases rose 28 percent from 2016 and another 27 percent in the first three quarters of 2018 from the same three quarters in 2017.

Top 10 Writers Of Directors And Officers Liability Insurance By Direct Premiums Written, 2018[1] ($000)

Rank	Group/company	Direct premiums written	Market share[2]
1	American International Group (AIG)	$868,022	13.2%
2	Chubb Ltd.	766,502	11.6
3	AXA	708,202	10.7
4	Tokio Marine Group	596,659	9.0
5	CNA Financial Corp.	452,844	6.9
6	Travelers Companies Inc.	318,118	4.8
7	Great American Insurance	272,267	4.1
8	Zurich Insurance Group	210,671	3.2
9	Berkshire Hathaway Inc.	209,367	3.2
10	Sompo Holdings Inc.	179,419	2.7

Directors and officers liability insurance direct premiums written totaled $6.6 billion in 2018, according to S&P Global Market Intelligence.

[1]Includes property/casualty insurers that provided monoline directors and officers policies. Does not include directors and officers policies sold as part of a package commercial multiperil policy. The directors and officers portion of commercial multiperil policies does not represent a material amount of industry directors and officers premiums written.[2]Based on U.S. total, includes territories.

Source: NAIC data, sourced from S&P Global Market Intelligence, Insurance Information Institute.

Employment Practices Liability Insurance

Following the flood of high-profile sexual harassment lawsuits since 2017 spurred by the #MeToo movement, there has been a dramatic increase in the purchase of employment practices liability insurance (EPLI). The coverage was developed in 1990, following the rise in employment-related lawsuits that emerged after the passage of the Americans with Disabilities Act of 1990 and the Civil Rights Act of 1991. The coverage protects businesses from the financial consequences of various types of employment lawsuits such as sexual harassment, job-related discrimination, hostile work environment, wrongful termination and retaliation. Other coverages include invasion of privacy, false imprisonment, breach of contract, emotional distress and wage law violations. Sexual harassment lawsuits filed with the U.S. Equal Employment Opportunity Commission (EEOC) alone rose by more than 12 percent from 2016 to 2017. In 2017, the EEOC recovered almost $70 million in victim restitution, 47 percent more than the $47.5 million it recovered in 2016. Median loss from sexual harassment case verdicts rose from about $136,800 in 2015 to about $221,000 in 2018, according to Advisen and Nationwide.

Employers currently are purchasing stand-alone EPLI policies, reversing the trend of including EPLI coverage with directors and officers insurance, according to the Risk and Insurance Management Society (RIMS). There are about 20 major carriers and about 20 smaller companies that offer the coverage. Insurance research firm MarketStance found that U.S. companies spent an estimated $2.2 billion on EPLI coverage in 2016 and projected the market would grow to $2.7 billion in 2019. Demand is likely to continue. According to the *2018 Hiscox Workplace Harassment Study*, which used data collected in June 2018, about one in three workers (35 percent) reported that they had been harassed at work. Among women, the figure is even higher, at 41 percent.

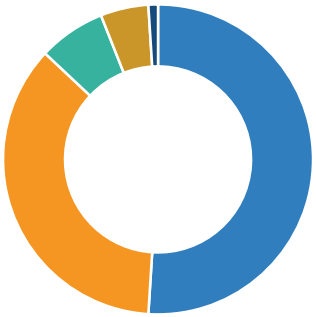
Results from the 570 respondents to the *2019 RIMS Benchmark Survey* from the Risk and Insurance Management Society and Advisen showed that the average insurance premium for EPLI rose 3 percent in 2018. Information technology companies were the most likely to purchase EPLI coverage, with 70 percent of companies saying they purchased the coverage, followed by consumer staples firms with 52 percent. Of consumer discretionary companies, 47 percent bought coverage, and banks and professional services rounded out the top five with 46 and 44 percent, respectively. American International Group was the leading writer, based on EPLI premiums written, with a 17.5 percent market share in 2018, followed by Tokio Marine Holdings Inc. with 15.4 percent. Markel Corp. ranked third with 11.2 percent and Chubb Ltd. and Fairfax Financial Holdings Ltd. ranked fourth and fifth with 10.4 percent and 7.5 percent, respectively.

Trends In Employment Practices Liability, 2011-2017

Year	Median (midpoint) award	Probability range[1]
2011	$271,000	$83,811 - $552,500
2012	69,792	12,197 - 259,380
2013	100,000	15,707 - 251,623
2014	86,250	20,000 - 302,574
2015	83,000	17,764 - 350,000
2016	122,170	25,000 - 450,000
2017	127,602	25,000 - 602,500
Overall	**$106,500**	**$21,891 - $385,000**

[1]The middle 50 percent of all awards arranged in ascending order in a sampling, 25 percent above and below the median award.
Source: Reprinted with permission of Thomson Reuters, *Employment Practice Liability: Jury Award Trends and Statistics*, 2018 edition.

Employment Practices Liability Verdicts, By Defendant Type, 2011-2017[1]



Service/retail companies	51%
Government entities	36
Manufacturing/industrial companies	7
Transportation companies	5
Other	1

[1]Based on plaintiff and defendant verdicts rendered.
Source: Reprinted with permission of Thomson Reuters, *Employment Practice Liability: Jury Award Trends And Statistics*, 2018 edition.

Shareholder Lawsuits

Cornerstone Research has conducted annual studies of securities class-action settlements and filings each year since the passage of the 1995 Private Securities Litigation Reform Act, enacted to curb frivolous shareholder lawsuits.

New federal class-action securities core filings (those that exclude mergers and acquisitions filings) in 2018 increased for the sixth consecutive year. 2018 core filings were dominated by consumer noncyclical companies such as biotechology, pharmaceutical and healthcare companies.

i

New federal class-action securities core filings (those that exclude mergers and acquisitions filings) in 2018 increased for the sixth consecutive year and were the highest since 2008 with 221 filings, compared with 214 in 2017, according to Cornerstone Research.

In the first half of 2019, core filings increased 17 percent to 126 from 108 in the first half of 2018.

Federal filings of merger and acquisition (M&A) lawsuits remained high with 182 filings in 2018, compared to the record high of 198 in 2017 and accounted for nearly half of all federal securities class-action filings in 2018.

In the first half of 2019, M&A filings fell almost 21 percent to 72, compared with 91 in the first half of 2018.

There were nine core filings involving initial coin offerings (ICOs) tied to cryptocurrencies in 2018 compared with five in 2017, the first year they appeared.

Post-Reform Act Class-Action Filings Of Securities Lawsuits By Industry, 1997-2018[1]

Industry	Average 1997-2017	2017	2018
Consumer	69	107	97
Industrial	17	26	20
Financial	32	20	19
Communications	27	18	28
Technology	23	14	22
Basic materials	5	11	8
Energy	7	9	7
Other	1	7	17
Utilities	3	2	3
Total	**182**	**214**	**221**

[1]Private Securities Litigation Reform Act of 1995. Data represent federal "core filings" and exclude mergers and acquisition (M&A) filings.
Source: Cornerstone Research.

The total value of settlements in 2018 soared to $5.1 billion, more than three times settlements of $1.5 billion in 2017, as the average settlement grew to almost $65 million, compared to $18.7 million in 2017, and the median settlement grew to $11 million from $5 million in 2017.

There were five mega settlements ($100 million or more) in 2018, compared with four in 2017.

Post-Reform Act Class-Action Settlements Of Securities Lawsuits, 1997-2018[1]

(2018 dollars)

Settlements	1996-2017	2017	2018
Minimum	$0.2 million	$0.5 million	$0.4 million
Median	8.6 million	5.1 million	11.3 million
Average	57.1 million	18.7 million	64.9 million
Maximum	9.0 billion	215.1 million	3.0 billion
Total settlements	**$97.0 billion**	**$1.5 billion**	**$5.1 billion**
Number of settlements	**1,697**	**81**	**78**

[1]Private Securities Litigation Reform Act of 1995; adjusted for inflation by Cornerstone Research.

Source: Cornerstone Research, *Securities Class Action Settlements–2018 Review and Analysis*. © 2019 by Cornerstone Research, Inc.

Florida Assignment of Benefits Litigation

An assignment of benefits (AOB) is a contractual agreement between an insurance policyholder and a business, in which the policyholder gives over ("assigns") to the business some of the policyholder's rights and benefits under the policy. The business might require this assignment before it will repair or replace a policyholder's property, or to conduct other services the insurance policy covers. When benefits are transferred to a business, it completes its job and bills the insurer. AOBs are an efficient, customer-friendly way to settle claims and are common in health insurance and personal auto physical damage claims. Standard homeowners policies usually allow AOBs.

According to the Insurance Information Institute's March 2019 report, *Florida's assignment of benefits crisis*, abuse of AOBs has fueled an insurance crisis in Florida. Its legal environment has encouraged vendors and their attorneys to solicit unwarranted AOBs from tens of thousands of Floridians, conduct unnecessary or unnecessarily expensive work, then file tens of thousands of lawsuits against insurance companies that deny or dispute the claims. There were roughly 1,300 AOB lawsuits statewide in 2000. There were more than 79,000 in 2013 and more than 153,000 in 2018, a 94 percent increase in just five years, according to the Insurance Information Institute's report.

Once limited to personal injury protection (PIP) claims, the AOB litigation problem has spread to homeowners insurance and auto glass coverage. In addition, AOB abuse has historically been localized to a few counties in South Florida and the metro areas around Tampa Bay and Orlando. However, the abuse is quickly becoming a statewide problem, resulting in Florida insurer legal costs rising significantly above nationwide averages and increasing costs for Florida insurance consumers.

EMERGING AND EVOLVING INSURANCE ISSUES

Social Inflation

Social inflation refers to a trend of rising litigation costs and their ultimate impact on insurers' claims payments. Insurers that provide liability coverage—protection against claims by third parties—are particularly affected by it.

While there is no universally agreed-upon definition, some more visible aspects of social inflation are:

- **Growing jury awards.** In 2018, according to the *National Law Journal*, the 100 largest jury verdicts ranged from $22 million to $4.6 billion. One industry source was cited saying companies insuring commercial trucks at fault in an accident once considered $1 million a high-end legal award—more recent verdicts have been as high as $10 million.
- **Litigation funding**, in which third-party investors provide funds to plaintiffs to pursue lawsuits against large companies—and their insurers—in return for a share in the settlement. In commercial auto insurance, litigation funding has been blamed by some insurers for driving up claim costs. According to *Carrier Management*, the practice started in Australia and moved to the United Kingdom as a way to provide funds where plaintiffs lacked resources to finance their own litigation. It spread to the United States in the 1990s, "becoming a growth industry for investment firms and hedge funds seeking new investment vehicles." According to *Carrier Management*, some estimates value the industry at more than $1 billion.
- **A culture of blame**, which is amplified by the 24/7 news cycle and the rise of social media. Rising medical costs, media attention to economic disparities, a wide range of scandals that have tarnished corporations and the use of legal advertising and increasingly sophisticated jury-selection techniques are all factors that have been cited as contributing to social inflation.

Social inflation is blamed by some for contributing to claim severity in commercial automobile insurance and hardening in some professional liability lines. Contributing to the rate increases in professional liability have been a spike in class actions and high-profile "nuclear verdicts," which some say have spurred even more plaintiff law firms into action. Evolving factors like the #MeToo movement and the opioid crisis have implications for the directors and officers and employment practices liability lines, as well as product liability. The CEO of W.R. Berkley Corp. has predicted that commercial general lability will be the next line to experience higher rates, due in part to social inflation.

Bottom line

Increased litigation and larger awards drive up insurers' loss and expense ratios. The impact of social inflation is difficult to quantify because it does not follow a predictable trajectory. An unprecedented or extremely high jury award, some argue, can set a new bar for future cases. This makes policy pricing and reserving for future claims a challenge and can drive up premiums.

Cybersecurity

Cyberrisk has been with us for decades, but its nature and potential severity have changed dramatically since the 1970s and 1980s and with increasing speed, as our work and personal lives have become intertwined via the internet.

Cyberthreats used to consist primarily of malicious actors accessing documents they should not see. In 1986 a German hacker accessed networks of military and industrial computers in the United States, Europe and East Asia with the intent of selling data to the Soviet Union. Early viruses and rudimentary ransomware also appeared in the 1980s, but it was not until more people owned computers, connected them to the internet, and became comfortable conducting business online that cyberrisk became a widely recognized concern.

Identity theft concerns grew as computer networks facilitated the rise of consumer credit and online transactions. More recently, various forms of malware have taken center stage in attacks.

Ransomware—also known as cyber extortion—denies people or businesses access to their systems or data until a ransom is paid. Ransomware typically spreads through phishing emails or by a user unknowingly visiting an infected website.

Cryptojacking is a technique whereby hackers use the computing power and electricity of unwitting device owners to mine Bitcoin and other cryptocurrencies.

Deepfake technology—in which manipulated video and audio can impersonate an individual—is improving to the point that it is becoming a threat. One successful voice hacking episode reportedly cost a U.K. company €220,000 ($243,000) when criminals used artificial intelligence-based software to impersonate a chief executive's voice and demand a fraudulent transfer.

Threats will grow as more data resides in the cloud and the Internet of Things (IoT) deepens our interconnectedness. Major impacts include:

- Business interruption and related damage to reputation and customer relationships
- Financial losses
- Loss or corruption of data
- Identity theft

Many smaller companies remain reluctant to purchase cyber insurance, even as they increasingly become targets for attacks.

Bottom Line

Cyberrisk requires continuous monitoring and mitigation. Large companies are better equipped than smaller ones and individuals to guard against the risks and soften the impact of events through insurance but smaller firms are vulnerable and increasingly targeted. Because the threats are always evolving, cyber insurance is hard to underwrite and price with confidence due to limited standardized historical loss data. In addition to offering a range of products to address cyberperils, insurers and brokers work closely with customers to identify and address business- and industry-specific risks. They also are working with third parties to address the data dearth that complicates underwriting.

Extreme Weather: United States

From hurricanes, tornadoes and hail, to wildfires and record-setting heat and cold, extreme weather conditions and events are making headlines and show no signs of stopping.

- Since 2005 four hurricanes caused insured losses of about $20 billion or more, measured in dollars when they occurred.
- The top 10 costliest tornadoes occurred since 2001 and insured losses ranged between $2 billion to over $7 billion when they occurred.
- Six of the top 10 costliest wildfires occurred in 2017 and 2018, and insured losses ranged from $1.5 billion to $10.5 billion when they occurred.

In 2019:

- Arkansas saw record rainfall.
- California alone recorded more than 47,000 wildfires.
- Severe thunderstorms and tornadoes have affected large areas of the Midwest.
- Late in the year, record-breaking cold spread from the Plains toward the East Coast.
- Significant flooding occurred across eastern Iowa, northwest Illinois, and northeast Missouri during the spring of 2019.

Insured losses, excluding flood losses from the National Flood Insurance Program (NFIP), reached a record-breaking $106 billion in 2017 and $50 billion in 2018, according to the Property Claims Services unit of ISO. Many meteorologists have said they expect high temperatures, severe storms, wildfires and flooding to be the new normal.

Flood damage is excluded under standard homeowners and renters insurance policies. However, flood coverage is available as a separate policy from the NFIP, administered by the Federal Emergency Management Agency (FEMA) and from some private insurers. Congress must periodically renew NFIP's authority to operate. If it were to lapse, claims would still be paid but the NFIP would stop selling and renewing policies (more details here).

In 2019 the Trump administration announced plans to reform the NFIP with a shift to fully risk-based pricing. FEMA said the program would begin to assess properties individually, instead of calculating rates based on whether a home falls in a designated flood zone. This is scheduled to be implemented by October 2021 and could drive more flood risk into private reinsurance and risk markets.

The number of private companies writing flood insurance increased to 120 in 2018, from 90 in 2017. Until recently, private insurers did not have reliable ways of measuring flood risk, but technological advances allow them to underwrite risk more accurately and make sounder actuarial decisions. In early 2019 federal regulators allowed mortgage lenders to accept private homeowners flood insurance if the policies abide by regulatory definitions. Also allowed are private insurance policies that do not meet regulations if insurers provide adequate protection according to general safety and soundness requirements.

The NFIP has increasingly been using reinsurance to spread its risk from flood losses. According to the Artemis website, FEMA has secured total capital markets-backed reinsurance coverage to $800 million, which, in addition to traditional reinsurance purchased, brings insurance protection to $2.12 billion for the 2019 named storm and hurricane season.

FEMA's 2018-2022 Strategic Plan laid out three strategic priorities:

- Build a culture of preparedness
- Ready the nation for catastrophic disasters
- Reduce the complexity of FEMA

Bottom line

Individually, insurers are taking steps to combat extreme weather, and many sponsor programs for their customers to fortify their homes and sometimes offer premium discounts for certain features, such as fire-resistive construction. To help homeowners following a loss, many also offer ordinance or law coverage, which covers any increased costs a homeowner incurs for having to bring a building up to municipal code or ordinances following a covered loss.

Insurers also are working together to help build resilience in the United States. Many of them fund the Insurance Institute for Building and Home Safety, dedicated to reducing and preventing losses that disrupt the lives of millions of home and business owners each year.

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