Supplement to *Best's Review* November 2019

Best's Guide to Understanding

The INSURANCE INDUSTRY

An overview for those working with and in one of the world's most interesting and vital industries.

2019 Edition

About AM Best

AM Best is the only global credit rating agency with an exclusive focus on the insurance industry. Best's Credit Ratings are recognized worldwide as an indicator of the financial strength and creditworthiness of insurance companies.

AM Best is also a source of insurance related data and market intelligence, covering thousands of companies worldwide through analytical resources and news coverage that provide a critical perspective for informed business decisions.

Headquartered in the United States, the company has offices in Oldwick, New Jersey; London; Mexico City; Singapore; Hong Kong; Dubai and Amsterdam, and does business in more than 100 countries. Visit *www.ambest.com*.

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Spotlights

BEST'S GUIDE TO UNDERSTANDING THE INSURANCE INDUSTRY

2019 Edition

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For Those Interested in The Insurance Industry

AM Best publishes *Understanding the Insurance Industry* to provide a clear picture of how the insurance industry operates, generates revenue and provides opportunities for people of varied talents and interests.

It's designed to provide readers with a high-level overview of the insurance industry, particularly how it operates in the United States. It's also designed to be a gentle and broad introduction to the insurance industry for students, new employees, prospects and those who would like to learn more about one of the most interesting and important financial services industries.

We've designed this book in six sections: the property/casualty sector (also known as nonlife insurance), life, health, reinsurance and alternative risk transfer, and the function of AM Best in the industry.

Articles were prepared by members of AM Best's editorial team. Some content is extracted from *Special Reports* produced by AM Best, from articles in *Best's Review* magazine and from original reporting specifically for this edition.

Additional copies of this book are available by ordering online. If you have suggestions for future topics or areas of focus, please send your comments to *news@ambest.com*.

Even more information, including monthly analytic broadcasts, topical webinars and other multiplatform resources are available at *www.ambest.com*.

Insurance: Financial Protection From Risks

Insurance protects against the financial risks that are present at all stages of people's lives and businesses. Insurers protect against loss — of a car, a house, even a life—and pay the policyholder or designee a benefit in the event of that loss. Those who suffer the loss present a claim and request payment under the insurance coverage terms, which are outlined in a policy. Insurers typically cannot replace the item lost but can provide financial compensation to address the economic hardship caused by a loss.

All aspects of life include exposure to risk. Individuals and businesses are presented with a choice: Accept the consequences of a possible loss, or seek insurance coverage in the event of a loss, reducing the exposure to risk. Those who don't procure insurance coverage are responsible for the full loss. Those who obtain coverage succeed in "transferring the risk" to another organization, typically an insurance company.

Purchasing insurance is the most common risk transfer mechanism for the majority of people and organizations. The money paid from the insured is known as the premium. In return, the insurer agrees to pay a designated benefit in the event of the agreed-upon loss.

By the Numbers

Insurance takes advantage of concepts known as risk pooling and the law of large numbers. Many policyholders pay a relatively small amount in premiums to protect themselves against a possible larger loss. When a sufficient number of insureds make that same choice, the funds available to pay claims increase and the chances of any single person or group exhausting the available funds grow smaller.

In risk pooling, insurers can accept a diverse and large number of risks, so long as many people participate in the insurance process, and the insured risks are individually unpredictable and infrequent. Although an insurer may accept risks from a large number of people, only a small portion of those are likely to suffer an insured financial loss during the period of insurance coverage. Risk pooling allows insurers to pay claims to the few from the funds of the many.

What insurers sell is protection against economic loss. These losses are outlined in contracts or documents known as insurance policies. Insurers that cover life and health usually do not cover property or liability, which is the domain of property/casualty insurers.

Life and health insurers cover three general areas:

- Protection against premature death.
- Protection against poor health or unexpected medical costs.
- Protection against outliving one's financial resources.

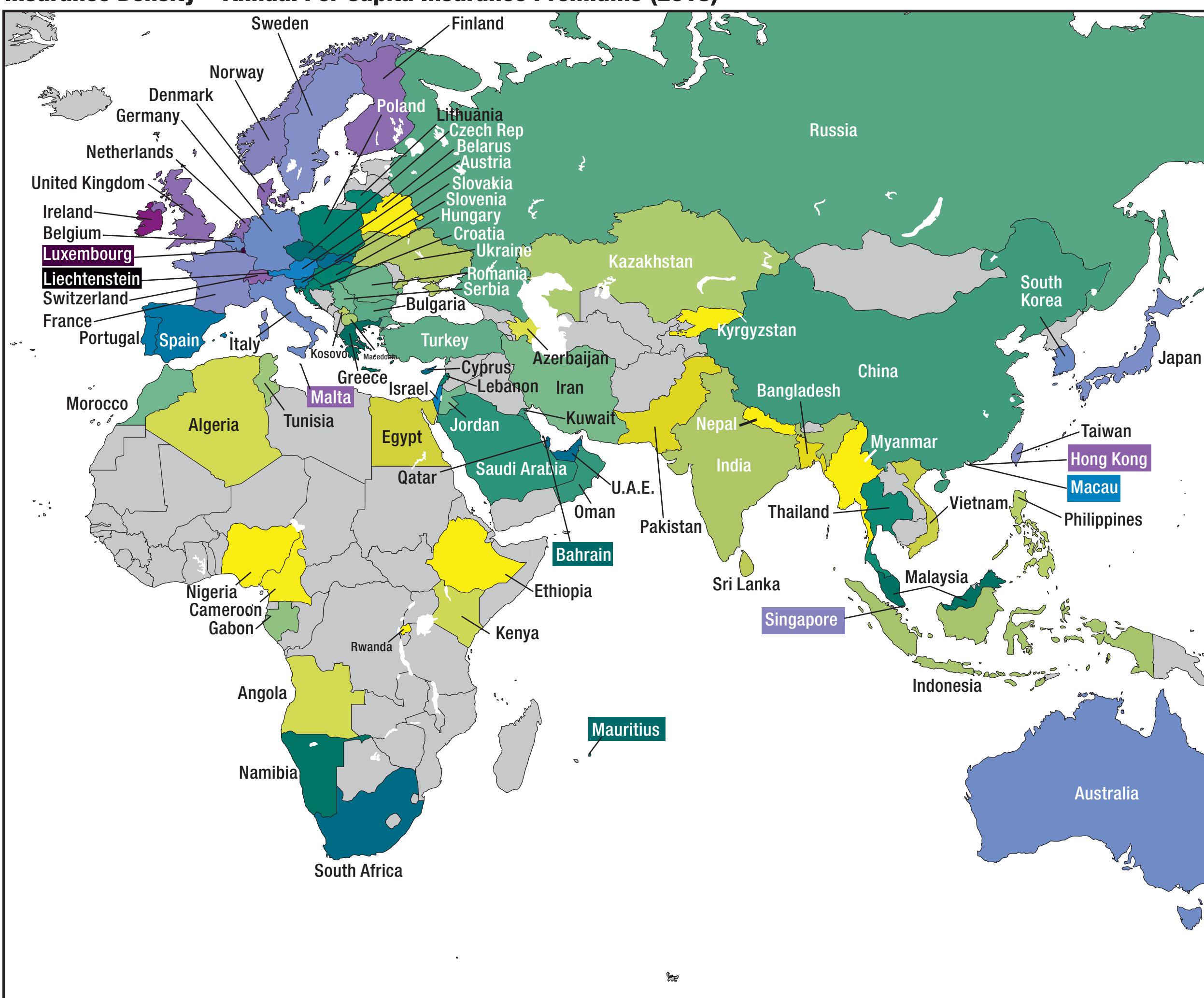
Nonlife insurers, known as the property/casualty sector in the United States and Canada, in general offer two basic forms of coverage:

- Property insurance provides protection against most risks to tangible property occurring as the result of collision, fire, flood, earthquake, theft or other perils.
- Casualty, or liability, insurance is broader than property and is often coverage of an individual or organization for negligent acts or omissions.

A well-known form of casualty insurance, auto liability coverage, protects drivers in the event they are found to be at fault in an accident.

A driver found to be at fault may be responsible for medical expenses, repairs and restitution to other people involved in the incident.

Insurance Density – Annual Per Capita Insurance Premiums (2018)



Source: Swiss Re *sigma* and Axco

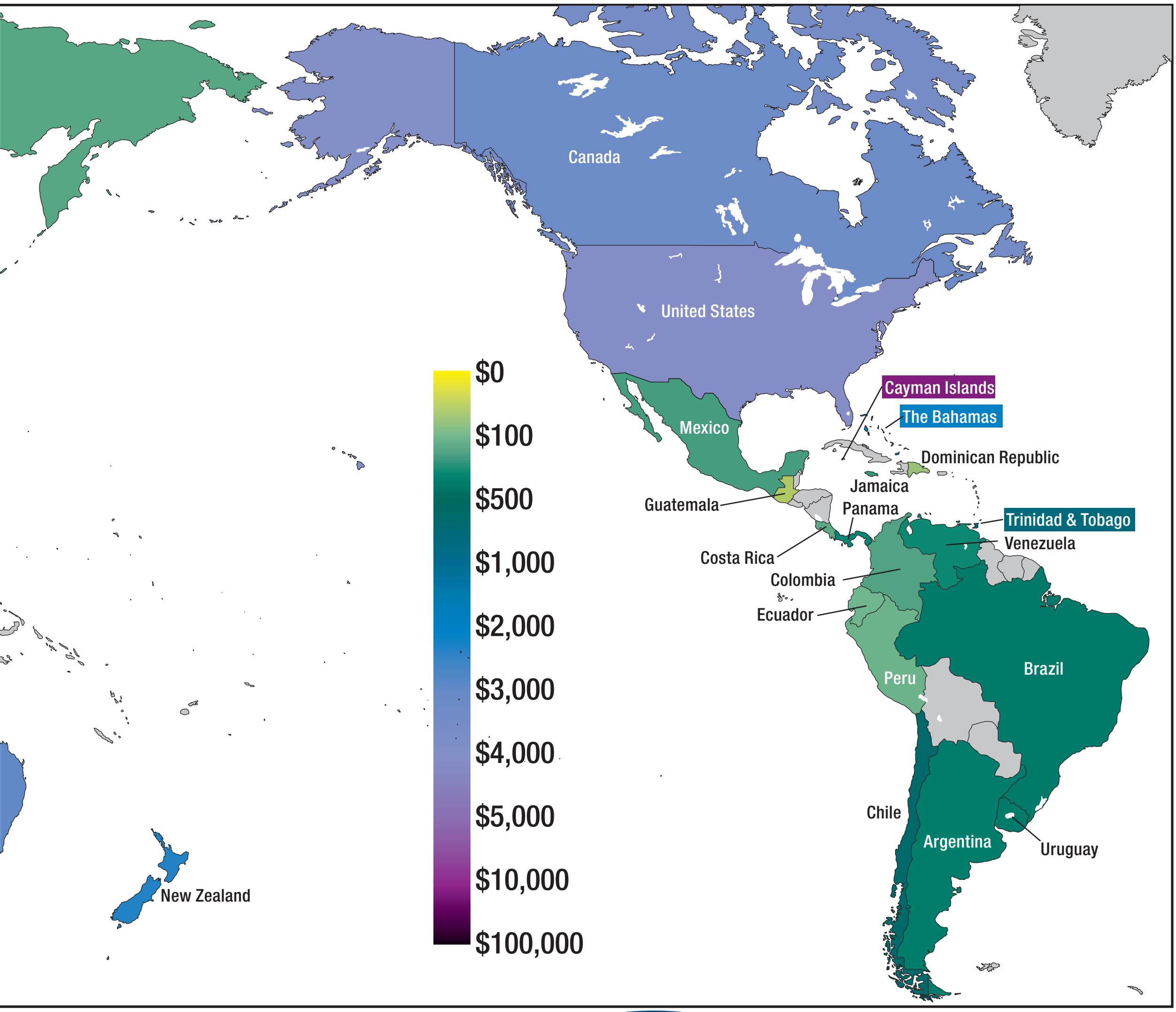
How Insurers Make Money

Insurance companies primarily make money in two ways: from investments and by generating an underwriting profit—that is, collecting premium that exceeds insured losses and related expenses.

It all begins with underwriting. Insurers, whether life or nonlife, must assess the risk and gauge the likelihood of claims and the value of those claims.

Insurance companies invest assets that are set aside to pay claims brought by policyholders. The interval between the time the insurer receives the premium and the time a claim against that policy is made is known as the "float."

If an insurer has predominantly short-term obligations, asset portfolios should be relatively liquid in nature (i.e., publicly traded bonds, commercial paper and cash).



If the needs are long term, a portfolio containing fixed-income securities, such as bonds and mortgage loans, may also include preferred and common stocks, real estate and a variety of alternative asset classes.

Life insurers also establish separate accounts for nonguaranteed insurance products, such as variable life insurance or annuities, which provide for investment decisions by policyholders.

Property/casualty insurers traditionally have been more conservative with the asset side of their balance sheets, primarily due to the high levels of risk on the liability side. For example, catastrophe losses can wipe out years of accumulated premiums in some lines.

In the end, the insurer builds up a diversified portfolio of financial assets that will eventually be used to pay off any future claims brought by policyholders.

The global recession of the previous decade hurt nearly all aspects of the insurance industry, as many companies experienced declining revenues and investment losses. Companies that were trading riskier instruments such as credit default swaps suffered most severely.

Few winners emerged. However, the mutual insurance sector managed to remain somewhat unscathed by the downturn. Meanwhile, a chronic low interest rate environment limited the ability of life and other insurers to benefit from fixed investments such as bonds. That may be changing, depending on economic conditions that could spur higher inflation.

The Economics of Insurance

U.S. Insurance Industry Jobs by Sector – 2019

Direct Life insurance carriers	338,100
Direct Property and casualty insurers	528,000
Direct Health and Medical Insurance Carriers	545,800
Direct Title Insurance and other direct insurance carriers	98,700
Reinsurance Carriers	30,800
Insurance Agencies and Brokerages	836,800
Claims adjusting	52,700
Third-Party Administration of Insurance Funds	202,400

Source: U.S. Department of Labor

More than 2,600 single property/casualty companies and 800 single life/health insurance companies are included in AM Best's files for the United States and Canada. AM Best's global database includes information on more than 17,000 insurance companies worldwide. Insurers pay claims in property, liability, life, health, annuity, reinsurance and other forms of coverage. In the United States alone, the broader insurance industry provides employment to 2.6 million people.

Insurance organizations play a vital role in the U.S. and other economies. They protect individuals and businesses from financial loss. Money they receive as premiums is invested in the economy. Protection from financial loss provides a sense of security to individuals and businesses, which are freer to pursue business and personal opportunities with less worry about financial devastation. Businesses can afford to purchase real estate and equipment, to hire more employees and fund travel and expansion.

Premiums collected from insureds, often known as policyholders, are invested by insurance organizations until they are paid out. Investor Warren Buffett has famously championed the value of "float"—funds held by insurance companies until they must be paid—as an important source of investment capital. However, insurers must be cautious and risk-averse with the majority of their investments, both to satisfy regulators' demands and to be able at any moment to pay claims.

Insurance companies are large holders of bonds, particularly those issued by corporations and similar sources. They invest small portions of their available funds in stocks. Life insurers have traditionally played larger roles in real estate investments, although a portion of those investments has shifted from direct ownership of commercial properties to more liquid investments in real estate investment trusts and the like. Insurers have also funded mortgages for commercial borrowers and developers, who in turn use the money to build commercial centers, shopping centers, apartments, warehouses and houses.

The insurance industry is part of the larger financial services industry, which includes banks, brokerages, mutual funds, credit unions, trust companies, pension funds and similar organizations. Traditional barriers between industries have disappeared in part. Mutual funds can be sold by insurance companies and banks. Equities brokers handle cash management accounts. Banks have become active sellers of life insurance and annuities and other insurance products. Insurers themselves have developed products that include savings, protection and investment elements.

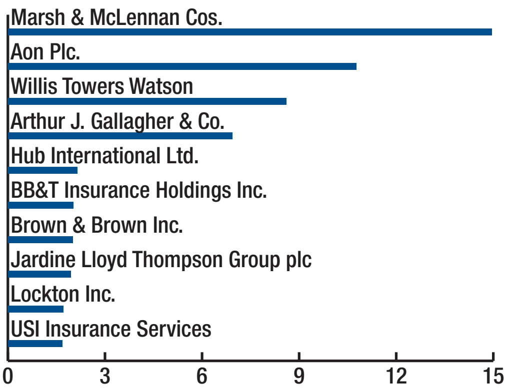
How Insurance Is Sold

Insurance is sold through a variety of channels, including face-to-face by insurance agents and brokers, over the internet, through the mail, by phone, in workplace programs and through associations and affinity groups.

Insurance agents generally represent the insurance company. Insurance brokers usually represent the insured client but can sometimes act as an insurance agent.

The insurance agent (or producer) can be a key component in the underwriting process by taking the role of intermediary.

Top 10 Global Brokers by Total Revenue (2018)
(US$ billions)



Source: *Best's Review* magazine

Unlike the underwriter, the agent is positioned to meet with the applicant, ask pertinent questions and gauge responses. Information gathered from the interview may become the basis the underwriter uses in decision making. As a benefit to the consumer, many agents—called independent agents—represent several insurance companies, and may have a better view of each company's risk-selection threshold.

A "captive" or "tied" agent works primarily with a single insurer or a group of insurers, and may receive business leads or some sort of special preference for having that relationship. The insurer often offers benefits, such as health coverage, marketing support and training to the captive agent.

Generally speaking, insurance companies with a captive agent force also may see better policyholder retention. For starters, independent agents are less likely to follow policyholders from one state to another when they move; many independent agents are not licensed in multiple states. Larger insurance organizations may have the resources to track and follow an insured, and they may alert a new agent in the area to where the policyholder has moved.

In addition to agents, the following channels are used to get the business of insurance done:

Brokers: These producers do not necessarily work for an insurance company. Instead, the broker will place policies for clients with the carrier offering the most appropriate rate and coverage terms. The broker is rewarded by the carrier, often at a rate that differs than that paid to the carrier's agents.

Managing General Agents: These individuals or organizations are granted the authority by an insurer to perform a wide array of functions that can include placing business and issuing policies.

Agents are paid commissions based on the value and type of products they sell. Some insurers pay brokers additional compensation based on how the business performs.

Direct Sales: Direct selling of insurance to consumers through mail, internet or telephone solicitations has exploded in recent years. Insurance companies can bypass commissions by removing the agent from the transaction, although marketing and other associated costs can offset the savings.

Increasingly, online relationships are facilitated by traffic aggregators—basically an alternative term for price-comparison sites. The aggregator service links the consumer to the insurer. Aggregator companies receive a commission from product providers when a policy is sold. They also may charge a fee based on any click-through to those providers.

The aggregator service can present challenges on two fronts: The site encourages consumers to select insurance policies based almost exclusively on price, and direct sales are a threat to the independent agent.

Important Functions Of Insurance Organizations

Investment: Insurers look to investment managers to make sure they have the funds available to pay claims in a timely manner, match expected losses with investments that mature or become available at appropriate times and help generate income that will contribute to profits. Investment professionals handling insurance assets have an additional complication: Insurers are prohibited by state regulators from investing too heavily in riskier, more volatile instruments. For that reason most insurers are heavily weighted in bonds and similar instruments, and less heavily invested in stocks.

Actuarial: Insurance is based on probability and statistics. Actuaries are skilled in both areas and use their training to help insurers set rates, develop and price policies and coverage, determine reserves for anticipated claims and develop new products that provide coverage at a profit. Actuaries must pass extensive exams to earn their formal designations. Actuaries play influential roles in all sectors of insurance, including property/casualty, life, health and reinsurance. The role of actuaries grows as noninsurance industries—such as hedge funds, risk modelers and capital markets participants—become involved in developing risk products and programs.

Underwriting: At the heart of insurance is the art and science of assuming risk. Underwriters use a combination of data gathering and analysis, interviewing and professional knowledge to evaluate whether a given risk meets the insurer's standards for prudent evaluation. Their job is to evaluate whether given risks can be covered and, if so, under what terms. Underwriting departments often have the authority to accept or reject risks. Perhaps the most significant responsibility of underwriters is to determine premium that recognizes the likelihood of a claim and enables the insurer to earn a profit. Some of the process has been automated, such as when auto and homeowners insurers access information like driving and property records. Applicants for life insurance and some forms of health coverage may be asked to obtain medical evaluations.

Claims: Sometimes called the actual "product" that insurance companies deliver, claims departments usually operate in two areas: at the offices of the insurer and in the field through claims adjusters. Claims are requests for payment based on losses believed by the policyholder to be covered under an insurance policy. Claims personnel evaluate the request and determine the amount of loss the insurer should pay. Requests for claims payment can come directly to insurers or be handled by agents and brokers working directly with the insured. Claims adjusters can work directly for an insurer or operate as independent businesses that can work for multiple insurers. Claims adjusters often have designated levels of authority to settle claims. Adjusters serve as claims investigators and sometimes conduct elaborate investigations in the event of suspected fraudulent claims.

World's Largest Insurance Companies

Based on 2017 net non-banking assets.

2017 Asset Rank	2016 Asset Rank	AMB#	Company Name	Country of Domicile	2017 Net Non-Banking Assets US$ (000)	% Change*
1	3	085014	Allianz SE	Germany	1,027,938,687	2.03
2	2	085085	AXA S.A.	France	991,924,406	-2.53
3	4	058182	Prudential Financial Inc.	United States	831,921,000	6.12
4	5	090527	Japan Post Insurance Co, Ltd.	Japan	722,993,900	-4.36
5	1	058175	MetLife Inc.	United States	719,892,000	-19.90
6	7	058334	Berkshire Hathaway Inc.	United States	702,095,000	13.09
7	6	090826	Nippon Life Insurance Company	Japan	700,033,576	2.66
8	9	086120	Legal & General Group Plc	United Kingdom	682,625,365	8.13
9	8	085925	Prudential plc	United Kingdom	666,519,046	4.98
10	10	085124	Assicurazioni Generali S.p.A.	Italy	643,443,323	3.05
11	11	085909	Aviva plc	United Kingdom	597,354,712	0.51
12	12	066866	Manulife Financial Corporation	Canada	581,270,008	1.23
13	18	086446	Ping An Ins. (Group) Co. of China Ltd.	China	572,539,339	21.97
14	13	090906	National Mut Ins. Fed. Agricultural Coop.	Japan	553,063,387	0.73
15	15	052446	China Life Insurance (Group) Company	China	552,931,023	7.23
16	19	086056	CNP Assurances	France	507,128,176	0.99
17	16	046417	Dai-ichi Life Holdings, Inc.	Japan	504,404,493	3.11
18	14	058702	American International Group, Inc.	United States	498,301,000	0.01
19	17	085244	Aegon N.V.	Netherlands	474,772,470	-6.96
20	22	093310	Credit Agricole Assurances	France	451,670,664	4.36
21	20	085485	Life Insurance Corporation of India	India	438,128,381	10.62
22	21	086976	Zurich Insurance Group Ltd.	Switzerland	422,065,000	10.39
23	23	090828	Meiji Yasuda Life Insurance Company	Japan	390,923,610	2.80
24	25	091242	Sumitomo Life Insurance Company	Japan	339,102,929	4.90
25	24	061691	New York Life Ins. Company	United States	337,116,000	6.05

* Percent change is based upon local currency. Source: BESTLINK

World's Largest Insurance Companies

Based on 2017 net premiums written.

2017 Premium Rank	2016 Premium Rank	AMB#	Company Name	Country of Domicile	2017 Net Premiums Written US$ (000)	% Change*
1	1	058106	UnitedHealth Group Incorporated [1]	United States	158,453,000	9.95
2	2	085085	AXA S.A.	France	104,463,098	-1.28
3	3	052446	China Life Insurance (Group) Company	China	97,640,660	14.41
4	9	086446	Ping An Ins. (Group) Co. of China Ltd.	China	90,263,540	30.08
5	5	085014	Allianz SE	Germany	86,777,631	1.40
6	4	058180	Anthem, Inc.	United States	84,205,200	7.49
7	6	070936	Kaiser Foundation Group of Health Plans [2]	United States	83,617,409	11.49
8	7	085124	Assicurazioni Generali S.p.A.	Italy	77,501,208	-0.49
9	8	020013	State Farm Group [2]	United States	69,862,637	2.69
10	10	085320	People's Ins. Co. (Group) of China Ltd.	China	68,905,913	10.18
11	16	058334	Berkshire Hathaway Inc.	United States	62,242,000	32.68
12	14	086577	Munich Reinsurance Company	Germany	56,966,802	0.48
13	18	085925	Prudential plc	United Kingdom	56,597,465	13.48
14	11	058700	Aetna Inc. [1]	United States	53,894,000	-4.27
15	13	058052	Humana Inc. [1]	United States	52,380,000	-1.21
16	15	090826	Nippon Life Insurance Company	Japan	50,630,016	3.01
17	17	085485	Life Insurance Corporation of India	India	48,949,052	5.88
18	25	051149	Centene Corporation [1]	United States	46,115,000	20.01
19	22	046417	Dai-ichi Life Holdings, Inc.	Japan	45,963,888	9.31
20	12	090906	National Mut. Ins. Fed. Agricultural Coop.	Japan	45,181,014	-22.73
21	23	050962	Tokio Marine Holdings, Inc.	Japan	42,512,056	3.03
22	21	052662	MS&AD Insurance Group Holdings, Inc.	Japan	42,337,961	-3.46
23	20	086976	Zurich Insurance Group Ltd.	Switzerland	41,136,000	-3.82
24	…	090598	China Pacific Insurance (Group) Co. Ltd.	China	40,838,755	20.64
25	19	090527	Japan Post Insurance Co., Ltd.	Japan	39,562,030	-16.23

* Percent change is based upon local currency. 1 Premiums shown are earned premiums. 2 AM Best consolidation; U.S. companies only. Source: BESTLINK

Insurance Entities

Ownership of traditional insurance companies generally comes in two structures, mutual and stock, although insuring entities may take a number of other forms, including reciprocal exchanges and risk retention groups. Mutual insurers are owned by and run for the benefit of their policyholders. Relative to insurance companies with shareholder ownership, mutual insurers have less access to the capital markets to raise money. Many mutual insurance companies have been formed by people or businesses with a common need, such as farmers. Mutuals pay a return of premium or "policyholder dividend" back to the policyholder if the company has strong financial results and a lower-than-expected level of claims. Policyholders also have the ability to vote on company leadership and have a say in certain corporate governance issues.

Reciprocal insurance companies resemble mutual companies. Whereas a mutual insurance company is incorporated, the reciprocal company is run by a management company, referred to as an attorney-in-fact.

Many mutuals were able to grow during the credit crunch of the late 2000s. Their growth is limited, however, because capital has to be generated internally, as there are no shares to sell. Some top former mutual insurance companies, including Metropolitan Life and Prudential, have demutualized to become shareholder-owned public companies. Typically, demutualization is done to raise capital or expand

Top 10 U.S. Holding Companies, 2018

Ranked by Assets

Rank	Company Name	AMB#	2018 Total Assets ($000)	2017 Total Assets ($000)	% Change
1	Prudential Financial, Inc.	058182	815,078,000	832,136,000	-2.0%
2	Berkshire Hathaway Inc.	058334	707,794,000	702,095,000	0.8%
3	MetLife, Inc.	058175	687,538,000	719,892,000	-4.5%
4	American International Group, Inc.	058702	491,984,000	498,301,000	-1.3%
5	Lincoln National Corporation	058709	298,147,000	281,763,000	5.8%
6	Principal Financial Group, Inc.	058179	243,036,100	253,941,200	-4.3%
7	Brighthouse Financial, Inc.	046498	206,294,000	224,192,000	-8.0%
8	Pacific Mutual Holding Company	050799	157,699,000	157,877,000	-0.1%
9	Voya Financial Inc.	050817	154,682,000	222,532,000	-30.5%
10	Cigna Holding Company	058703	153,226,000	61,759,000	148.1%

Ranked by Revenue

Rank	Company Name	AMB#	2018 Total Revenue ($000)	2017 Total Revenue ($000)	% Change
1	UnitedHealth Group Incorporated	058106	226,247,000	201,159,000	12.5%
2	Berkshire Hathaway Inc.	058334	225,682,000	242,061,000	-6.8%
3	Anthem, Inc.	058180	92,105,000	90,040,000	2.3%
4	MetLife, Inc.	058175	67,941,000	62,308,000	9.0%
5	Prudential Financial, Inc.	058182	63,465,000	59,689,000	6.3%
6	Centene Corporation	051149	60,369,000	48,572,000	24.3%
7	Humana Inc.	058052	56,912,000	53,767,000	5.8%
8	Cigna Holding Company	058703	48,569,000	42,043,000	15.5%
9	American International Group, Inc.	058702	47,427,000	49,593,000	-4.4%
10	Liberty Mutual Holding Company Inc.	051114	41,568,000	39,409,000	5.5%

Source: BESTLINK Holding Companies database operations. Other companies, including Pacific Life and Liberty Mutual, took an intermediate step and became part of a mutual holding company structure.

A holding company structure, employed primarily in the United States, provides easier access to the capital markets, whereby shares can be sold to help raise capital. The holding company owns a significant amount, if not all, of another company's or other companies' common stock. Many insurance companies are part of a holding company structure, with the publicly traded parent company owning stock of the subsidiary or the controlled insurance company or companies.

Captive insurance companies are formed to insure the risks of their parent group or groups, and sometimes will insure risks of the group's customers. Captive insurers have become more high profile in recent years after many U.S. states and some international jurisdictions adopted legislation and rules encouraging captives to locate in their domiciles.

A risk retention group is a liability insurance company owned by its policyholders. Membership is limited to people in the same business or activity, which exposes them to similar liability risks. The purpose is to assume and spread liability exposure to group members and to provide an alternative risk financing mechanism for liability. These entities are formed under the Liability Risk Retention Act of 1986.

Structural differences between stock and mutual insurance companies affect business decisions. Stock companies have to answer to owners and policyholders, so if management's investment strategies are carried out with shareholder expectations in mind—seizing opportunities for growth and profit—they may be acting at the expense of policyholders. Mutuals, on the other hand, are owned by the policyholders, so the focus likely will be on affordability and dividends.

Observers have struggled to make meaningful comparisons of profitability generated by public and mutual companies. One thing is certain, however: No particular organizational structure is a cure-all for poorly conceived or executed strategies.

A Combined Approach

Startupbootcamp InsurTech's Sabine VanderLinden: Insurers must implement incremental innovation and disruptive innovation at the same time. VanderLinden, CEO, said most of the startups she's seeing currently are designed to collaborate with large enterprises, rather than build stand-alone operations.

How is insurtech of today different than insurtech of the past?

When you look at today's insurtech startups, I would say they are more mature. When we started in 2015, it was just a few startups which came to market. And during that year, we talked to 1,500 startups. My team here, just in the U.S., has talked to about 3,300 startups. What you find is volume, more startups. Then when you look at the type of things they are doing, when we started in 2015, it was all about retail, developing products and services for the travel, home, car insurance markets, improving that customer engagement. Probably 60% of the startups we sourced during that year were customer engagement startups. Today, the startups are going down the value chain, moving to more complex areas of that value chain, such as underwriting and AI, and looking at new ways to service customers, but also sectors. Complex type of insurances, such as specialty lines and commercial lines. Now, we are seeing more and more life, health and annuity startups coming to market. More complex, more interesting areas of the value chain. Startups, which are also coming from other adjacent areas of the industry, may enrich an insurance data pool to design new, personalized products and services.

How has the industry's view Of insurtech startups changed?

When we started, it was all about curiosity, observing. Everybody talked about the new disruptor coming into the industry. They didn't really know how to approach it. Now, the conversation is different; 80% of the startups which are out there need to collaborate with large enterprises, so they are part of an ecosystem of players which are aiming to improve and ensure ecosystem capabilities. I would say the relationship is a much more co-creative one, one where different players have the ability to add value. I think what we are seeing more and more is that insurance may be starting in retail, insurance may be starting in

Sabine VanderLinden


Let's talk niches. Day spas, sports teams, and low-income housing builders. They all need coverage they can count on. Philadelphia Insurance Companies provides protection for more than 120 niche, real-world industries. We know every niche business has some risk, and each deserves exceptional protection and service. Experience the PHLY difference.
Call 800.873.4552 or visit PHLY.com
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manufacturing or transportation, because that is where the relationship is starting. What we will see as well is a new business model coming to market.

Is disruption from within possible, and if so, what is the key to that?

I believe that large organizations need to do a lot of work to disrupt themselves from within, but yes, it is possible. You have the big players, such as Munich Re and Axa, who have started doing that for many years. What they're doing is, like one of my market colleagues would say, developing ambidextrous strategies. What they mean by that is that a business, to be successful, needs to implement incremental innovation and disruptive innovation at the same time. Incremental, meaning that they have to work tactically with a few startups to design a solution and partner with them.

Also, learn to change their internal capability, so changing the way people work with startups, changing the way people bring new products and services to market. You cannot produce a product in 12 months anymore. You need to shrink that to eight to 12 weeks. How are you going to do that? You need to change your internal DNA. Then you have the disruptive side, which is about corporate venture capital and venture build, where you're going to acquire new talent from the outside to help you build completely new companies. You have to do that at the same time. The only way you can disrupt from within is by using different parts of the puzzle to make your company ready to be agile and flexible to meet the needs of the future.

Collaboration, partnerships, those are big topics. Is that a shift in thinking? Is the industry more willing to partner now than it has been?

As an industry, there's still a lot of work to do. You have a lot of companies who still want to keep their hand close, because they don't want to invite partners from the outside. A lot are learning from what happened in fintech. Open innovation is key to succeed in today's world. By inviting players from the outside to help you innovate, but also to design products which are more relevant for customers of tomorrow require you to deliver and work amongst ecosystem players.

You probably won't have the choice. You will see the leaders and the followers, and the laggards emerging more and more in the next few years. Businesses now are disappearing every day. Those who want to sustain and survive will have to adapt the way they are working with the external world.

You not so long ago launched a program in Hartford, Connecticut. How is it growing?

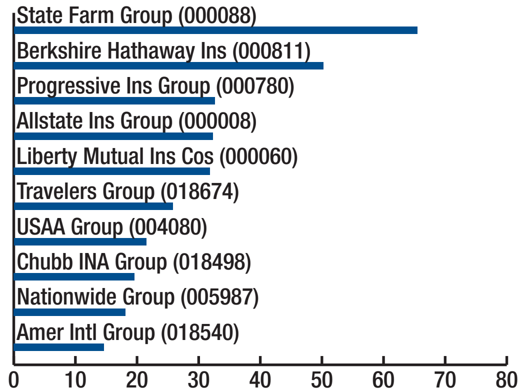
That is growing very well. Yes, in September [2017] we launched a program in Hartford. It's amazing to have seen the community in Hartford supporting us in our venture. We are working now with probably six of the largest insurers in the region at the moment. The goal is for Hartford to become the next insurtech capital in the U.S. We have a lot of work to do.

— Kate Smith

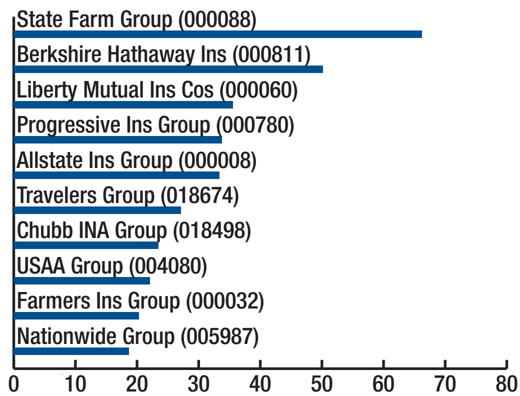
Property/Casualty Market at a Glance

Property/casualty is known as "nonlife" insurance in many parts of the world. The word "property" usually refers to physical things, including autos, buildings, ships and other concrete items that can be lost, damaged or otherwise become a financial loss to the insured. The word "casualty" usually refers to the concept of liability, and is often associated with coverage of negligent acts or omissions. Casualty areas are some of the largest, including auto liability, professional liability, workers' compensation and general liability. The relative size of property/casualty insurers is often gauged by premiums collected.

U.S. Property/Casualty – Top Insurers by Net Premiums Written 2018
(US$ Billions)
(AMB #)



U.S. Property/Casualty – Top Insurers by Gross Premiums Written 2018
(US$ Billions)



Source: BESTLINK – *Aggregates & Averages Property/Casualty United States & Canada, 2019 Edition*

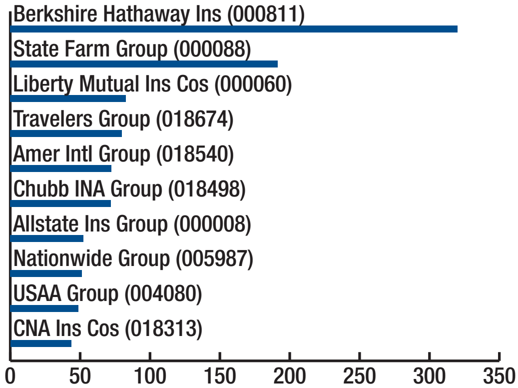
In the United States, property/casualty insurers file a special statement with the National Association of Insurance Commissioners. The filing is designed to determine premiums and losses by lines of business and to give an accurate view of the insurer's reserving for loss.

As of this publication, AM Best's database contained filing statements for 2,615 total single companies operating in the U.S. property/casualty market. According to the U.S. Department of Labor, 528,000 people work in the property/casualty industry.

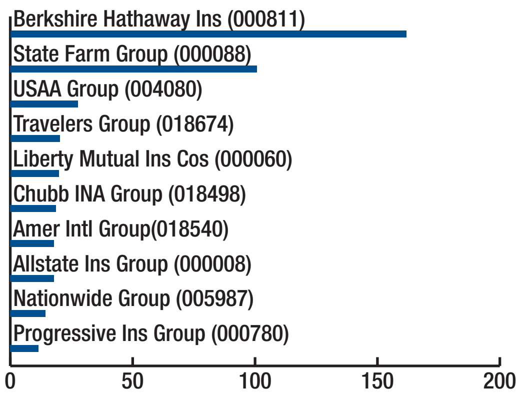
According to AM Best's 2019 Review & Preview report, the property/casualty industry faces several issues, including a wider range of catastrophe exposures, dubbed the "new normal." That is evidenced through rising losses from wildfires, along with issues of driver safety and corporate exposures.

The new normal, particularly as it applies to the wildfire peril, will undoubtedly drive companies to reassess their view of this (catastrophe and shock loss) risk. Given the changing profile of wildfires evident over the last two years, insurers will need to reevaluate their risk scoring models, in addition to risk appetites and tolerances. As companies continue to adapt their approach, they will need to contend with

U.S. Property/Casualty –
Top Insurers by Total Admitted Assets (2018)
(US$ Billions)

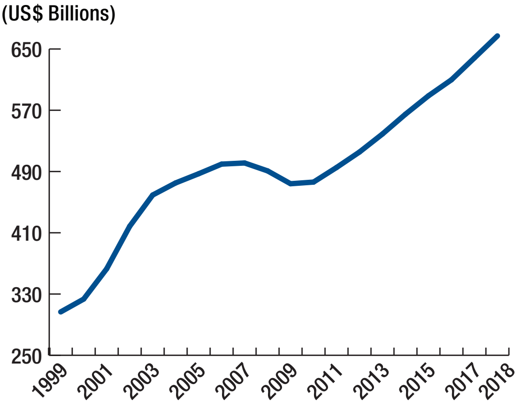


U.S. Property/Casualty –
Top Insurers by Policyholder Surplus (2018)
(US$ Billions)



Source: BESTLINK – *Aggregates & Averages Property/Casualty United States & Canada, 2019 Edition*

U.S. Property/Casualty –
Direct Premiums Written
(US$ Billions)



Source: BESTLINK – *Aggregates & Averages Property/Casualty United States & Canada, 2019 Edition*

any potential regulatory response to underwriting actions.

Distracted driving still plays a part in loss trends, although in the past its impact was more difficult to quantify. As telematics become more sophisticated and the phone-app-based, personal auto writers can accumulate more actual data to pinpoint causes of accidents and, using other advanced analytics, address the causes of loss and set appropriate premiums for drivers through more stringent underwriting.

Innovation will be a key component to any insurer's plan to stay relevant and maintain — or even increase — market share. New entrants, particularly those with a nontraditional insurance structure, could threaten the status quo. Writers that can harness technology to create operational efficiencies while optimizing the customer experience will be the best positioned to succeed. Those that do not have the sale, expertise or technological capabilities to keep up with the rapidly evolving personal auto market will eventually end up losing market share and become less profitable.

The professional liability segment covers myriad niche liability classes outside the medical professional liability line. The vast majority of the segment's business (90% of the $17 billion plus premiums written) is composed of directors and officers liability and errors and omission (E&O) coverages. The remainder of premium reflects miscellaneous professional liability (lawyers, accountants, engineers) and a small but growing book of US cyber liability.

Directors & Officers coverage (D&O) results remain challenged. Claims have been driven by class action suits, rising shareholder activism, and growing overall loss costs, as rate pressures continue in both the primary and excess layers.

Some of the capacity previously allocated to traditional E&O coverage has now been reallocated to cyber coverage. Companies have become stricter about underwriting selections, especially based on insured's prior loss experience and large recent claims.

Cyber liability draws most of the segment's headlines. A large portion of the cyber liability premium is written outside the US, where the loss experience has not yet been significant. Cyber writings by US carriers are likely to increase, extending a trend that started in 2015, divided between standalone and packaged policies. The main driver in the increase in writings is pickup from the number of small to medium-sized insureds buying the coverage.

Property/Casualty Coverage Types And Lines of Business

Property insurance covers damages or loss of property. As a result, rates can be significantly higher in areas susceptible to perils such as hurricanes. Casualty insurance covers indemnity losses and legal expenses from losses such as bodily injury or damage that the policyholder may cause to others.

When a loss occurs, insurance companies establish a claim reserve for the amount of the expected cost of the claim using a projection of estimated loss costs over a period of time. While property reserves are established when a property loss occurs and are usually settled soon after a loss, casualty reserves are established for losses that may not be paid or settled for years (i.e. medical professional liability, workers' compensation, production liability and environmental-related claims). These "long-tail" lines of business are so named because of the length of time that may elapse before claims are finally settled.

Determining and comparing profitability among property/casualty companies typically is achieved through the combined ratio, which measures the percentage of claims and expenses incurred relative to premiums earned/written. A combined ratio of less than 100 means that the insurer is making an underwriting profit. Companies with combined ratios over 100 still may earn an operating profit, however, because the ratio does not account for investment income.

Property/casualty insurance generally falls into two areas of concentration: personal and commercial lines.

The two largest product lines within the personal lines sector are auto insurance and homeowners insurance.

Commercial lines include insurance for businesses, professionals and commercial establishments. There are many more varieties of commercial lines products than personal lines. The largest two lines are workers' compensation and other liability.

Personal Lines of Business

Personal insurance protects families, individuals and their property, typically homes and vehicles, from loss and damage. Auto and homeowners coverage dominates mostly because of legal provisions that mandate coverage be obtained.

Auto: The largest line of business in the property/casualty sector is auto insurance. According to AM Best's BestLink database, the top 50 groups writing auto insurance captured 88.3% of the total market in 2018, or $253 billion of the $286 billion for all U.S. auto coverage. The largest writer of U.S. private passenger auto, and all auto coverage overall, remains State Farm Group.

Auto insurance includes collision, liability, comprehensive, personal injury protection and coverage in the event another motorist is uninsured or underinsured.

U.S. Property/Casualty – Direct Premiums Written by Line of Business (2018)
(US$ 000)

	No of Cos.	Direct Premiums Written
Pvt Pass Auto Liab.	808	147,775,364
Homeowners M.P.	872	98,264,358
Pvt Pass Auto P.D.	806	98,117,335
Workers' Comp.	710	54,900,760
Other Liab.-Occ	1,274	44,486,610
Comm'l Auto Liab.	857	30,640,851
Comm. M.P.-Non-Liab.	743	26,283,464
Inland Marine	993	24,258,284
Oth Liab-Claims-Made	604	22,537,236
Comm. M.P.-Liability	694	15,480,090
Fire	968	12,757,610
Allied Lines	896	11,807,622
Multi Peril Crop	35	10,114,235
Comm'l Auto P.D.	787	9,641,119
Medical Prof. Liab.	298	8,899,746
Surety	327	6,554,893
Mortgage Guaranty	19	5,208,942
Group A&H	98	4,777,001
Farmowners M.P.	214	4,439,442
Products Liability	459	3,506,869
Ocean Marine	177	3,313,308
Earthquake	521	3,244,192
Warranty	57	3,162,516
Federal Flood	123	2,844,198
Other A&H	86	2,177,108
Credit	106	1,913,228
Boiler & Mach.	375	1,820,779
Other Lines	109	1,453,190
Aircraft	68	1,396,830
Excess WC	59	1,281,455
Fidelity	287	1,252,988
Private Crop	33	1,048,668
Private Flood	119	701,907
Financial Guaranty	12	417,536
Burglary & Theft	394	350,254
Credit A&H	9	192,626
International	8	77,165

Source: BESTLINK – *Aggregates & Averages Property/Casualty U.S.& Canada, 2018 Edition*

Homeowners: The second-largest line of personal property/casualty insurance is homeowners, representing $99 billion in direct premiums written for the U.S. property/casualty industry in 2018. Historically, the leading cause of U.S. insured catastrophe losses has been hurricanes and tropical storms, followed by severe thunderstorms and winter storms. The top 50 groups writing homeowners multiperil coverage represented 85% of the U.S. market for homeowners coverage, according to AM Best's BestLink database. The largest writer of homeowners multiperil coverage is also State Farm Group.

Commercial Lines of Business

Commercial insurance protects businesses, hospitals, governments, schools and other organizations from losses.

Two of the largest lines in the commercial segment are workers' compensation and general liability.

Workers' Compensation: Insurers on behalf of employers pay benefits regardless of who is to blame for a work-related injury or accident, unless the employee was negligent. In return, the employee gives up the right to sue.

General Liability: General liability insurance protects business owners (the "insured") from the risks of liabilities imposed by lawsuits and similar claims. Liability insurance is designed to offer its insureds specific protection against third-party insurance claims; in other words, payment is not typically made to the insured, but rather to someone suffering loss who is not a party to the insurance contract. In general, damages caused by intentional acts are not covered under general liability insurance policies. When a claim is made, the insurance carrier has the duty to defend the insured.

Other major lines of business in the property/casualty commercial sector include:

Aircraft (all perils): Aircraft coverage is often excluded under standard commercial general liability forms. Coverage for aircraft liability loss exposure can include hull (physical damage) and medical payments coverages.

Allied Lines: Coverage for loss of or damage to real or personal property by reason other than fire. Losses from wind and hail, water (sprinkler, flood, rain), civil disorder and damage by aircraft or vehicles are included.

Boiler and Machinery: Coverage for damage to boilers, pressure vessels and machinery.

Burglary and Theft: Coverage to protect property from burglary, theft, forgery, counterfeiting, fraud and the like. Protection can include on- and off-premises exposure.

Commercial Auto: Coverage that protects against financial loss because of legal liability for injury to persons or damage to property of others caused by the insured's commercial motor vehicle.

Commercial Multiple Peril: Commercial insurance coverage combining two or more property, liability and/or risk exposures.

Fidelity: Coverage for employee theft of money, securities or property, written with a per loss limit, a per employee limit or a per position limit. Employee dishonesty coverage is one of the key coverages provided in a commercial crime policy.

Financial Guaranty: Credit protection for investors in municipal bonds, commercial mortgage-backed securities and auto or student loans. Provides financial recourse in the event of a default on the bond or other instrument.

Fire: Coverage for loss of or damage to real or personal property due to fire or lightning. Losses from interruption of business and loss of other income from these sources are included.

Inland Marine: Coverage for goods in transit and goods, such as construction equipment, subject to frequent relocation.

Medical Professional Liability: Protects against failure to use due care and the standard of care expected from a doctor, dentist, nurse, hospital or other health-related organization.

Mortgage Guaranty: Insurance against financial loss because of nonpayment of principal, interest and other amounts agreed to be paid under the terms of a note, bond or other evidence of indebtedness that is secured by real estate.

Multiple Peril Crop: Protects against losses caused by crop yields that are too low. This line was developed initially by the U.S. Department of Agriculture.

Ocean Marine: Provides protection for all types of oceangoing vessels and their cargo as well as legal liability of owners and shippers.

Products Liability: Protection against loss arising out of legal liability because of injury or damage resulting from the use of a product or the liability of a contractor after a job is completed.

Surety: The surety bond guarantees that the principal of a bond will act in accordance with the terms established by the bond.

Words of Wisdom

Insurance industry leaders share their insights into leadership and what they have learned as they've moved up the ladder.

Today's insurance CEOs may be in a top role now, but it wasn't always that way. Along the way, they had to develop their skills, build networks, take chances and learn from experience.

Take Risks

If I had to choose one subject to stress as the critical area of focus for our industry, it would be talent. And by talent, I mean the 21st century version: a combination of multifaceted skills, bold perspective, innovative mindset and unshakable courage. Our current and developing leaders need to possess a broad and deep array of attributes in order to succeed, and to lead, in our rapidly evolving industry.

Why? Because insurance has taken far too long to acknowledge and respond to the winds of change. Rapid advances in data science and technology, a lack of interest in the sector as a career, the rise of diversity and inclusion as a business imperative, and the expectations of a multigenerational workforce demand a reshaping of how our companies are managed.

Today's leaders need impeccable technical skills as well as effective "softer skills"—a bit of a misnomer, as the empathy and compassion included in that description can be much harder to master than professional qualifications. But in today's working environment, they're also critical.

My best advice for charting a satisfying and successful career in insurance is to ignore the maxim "Stay in your lane." You can't gain the skills, perspective, mindset and courage I mentioned earlier by restricting your experiences and opportunities for growth.

I know that my career has been enriched by taking advantage of every opportunity—no matter how large or how small—and taking a few risks along the way. Doing this introduced me to people I'd never have met and took me to places I'd never have gone if I'd been rigid in my focus.

So stay open, flexible and curious, and have the courage to get in over your head from time to time. You'll develop the talent you need to be a leader—and you'll be surprised at where that talent takes you.

Pina Albo
CEO
Hamilton Insurance Group


Pina Albo

Focus on Strengths

So often, we tend to focus on our weaknesses and areas for development as we look to advance our careers. More important, I believe, is recognizing and developing your strengths. Once you understand these, you will more confidently approach new and different career opportunities.

Dennis R. Glass
President and CEO
Lincoln Financial Group


Dennis R. Glass

Be a Team Player

My advice to future leaders in the industry would look something like this:

• Accept the fact that you are not the smartest person in the room and listen to what others have to say. A leader needs to make decisive decisions, but the backdrop for those decisions most often comes from others. Once the decision is made, have your team execute and make sure the people responsible for providing the key points in favor of this decision get the credit.

• Get close to your employees and meet with them on a regular basis. You will be amazed at what you can learn from employees on ways to improve efficiency and workflow.

• Avoid the use of the word "I" as much as possible. Replace "I" with "We" whenever you can.

• One of the main reasons someone gets to a leadership position is because they are well-liked and well-respected. Remain approachable and do not retreat to the ivory tower once you reach the top position. Answer your own phone and get your own coffee.

• Avoid implementing any process designed to catch someone doing something wrong. Trust your people 100% of the time—until they give you a reason not to.

• Check your ego at the door every day.


Robert D. (Bob) O'Leary

Just because others might think you are the most important person in the company doesn't mean you have to. You win as a team and lose as a team. It's not all about you.

• Be polite and respectful to everyone you work with. There is nothing wrong with a CEO saying "please and thank you" to others on a regular basis.

Robert D. (Bob) O'Leary
President and CEO
Philadelphia Insurance Cos.

Aim High, Then Recharge

We all know the world today is moving incredibly fast, led by rapid developments in technology that are causing disruption in multiple industries—including ours. To thrive in an environment like this, I have two pieces of advice.

First, whatever your role is or where you sit in your organization, shoot for the moon. Establish big, bold, audacious goals that stretch the limits of what you think you can accomplish. The people who are running companies that are redefining the customer experience—whether it's Amazon, Apple or Netflix—think this way. They are never content with where they are today and know there is always a way to do better. When you think about the role our industry plays in providing security and peace of mind for hundreds of millions of people, it's important for all of us to think this way. And if you fail or face setbacks along the way, don't let that stop you. Learn from your mistakes so you can deliver a better outcome next time.

On your way to the moon, you may need to recharge, and that's my second piece of advice—take time to unplug and refresh. We're all tied to our devices 24/7, so this is harder than ever, but disengaging does wonders for your mindset and outlook. Over the past few years, I've become a big believer in getting the right amounts of exercise, meditation and sleep. In fact, I am going to a weeklong retreat for a complete "digital detox" where the only thing on my agenda is to read, think and reflect. And you know what? The company will still be there when I get back—and I'll be more invigorated and revitalized to rejoin it.

Roger Crandall
Chairman, President and CEO
MassMutual


Roger Crandall

Be a Good Listener

Throughout my career and at Nationwide, I have been fortunate to be surrounded by colleagues who are smart, have a natural curiosity and an ability to build strong relationships and demonstrate influence. In addition to those personal characteristics, identifying opportunities for continuous learning and seeking out individuals who will question your ideas creates better outcomes. Combined, these are all qualities that are central to advancing in leadership.

As influence increases, leaders should be confident in setting high goals and accountable when managing through challenges. It's important to be open to taking calculated risks to achieve success. For example, early in my tenure as CEO I knew I wanted members of my leadership team to have broader experiences. With that in mind, I asked most of them to lead business areas in the organization with which they had little or no experience. In doing so, their learning would open the door for them to share new perspectives, and possibly challenge past practices. It also created an environment for more holistic strategic planning discussions as a leadership team. This has become an effective ongoing practice for Nationwide.

Each of these thoughts on leadership connect to one crucial recommendation for those who want to have a significant leadership position —never stop listening. Effective listeners gain insight that unlocks the potential for endless success.

Steve Rasmussen
Former CEO
Nationwide

Life Market at a Glance

Life/health insurers cover the risks of dying, offer retirement savings products and provide a variety of protections against disability, specific types of illness and more. As of this publication, AM Best's database contained annual filings for 750 single combined life/health companies operating in the United States. According to the U.S. Department of Labor, 338,000 people work in the U.S. life insurance sector. Life insurers often have longer investment and coverage horizons because retirement and mortality are often events that are decades away. The relative size of life/health insurers is often gauged by assets under management. Life insurers have increasingly embraced annuities and other forms of retirement savings, as sales of traditional life products have been flat or grown modestly and baby boomers transition into retirement.

The U.S. life/health industry collected $610 billion in premium income and had $4.25 trillion in total assets as of 2018, the most recent full year available. The largest lines of business as measured by premium income, in order, are individual

Top 10 U.S. Life/Health Companies
Ranked by 2018 Direct Premiums Written

(US$ 000)

Rank	Company Name	AMB#	DPW
1	UnitedHealth Life Companies	069973	56,832,231
2	Prudential of America Group	070189	40,075,270
3	Metropolitan Life & Affiliated Cos	070192	38,451,419
4	Aetna Life Group	070202	33,708,522
5	New York Life Group	069714	29,345,407
6	Lincoln Finl Group	070351	28,608,787
7	Massachusetts Mutual Life Group	069702	24,886,931
8	Aegon USA Group	069707	23,639,674
9	CIGNA Group	070173	22,479,981
10	AIG Life & Retirement Group	070342	21,941,413

Top 10 U.S. Life/Health Companies
Ranked by 2018 Net Premiums Written

(US$ 000)

Rank	Company Name	AMB#	NPW
1	UnitedHealth Life Companies	069973	57,119,779
2	Prudential of America Group	070189	42,707,423
3	Metropolitan Life & Affiliated Cos	070192	35,111,215
4	New York Life Group	069714	29,333,258
5	Massachusetts Mutual Life Group	069702	23,237,240
6	Jackson Natl Group	069578	23,159,956
7	Aetna Life Group	070202	21,772,142
8	CIGNA Group	070173	21,712,887
9	Aegon USA Group	069707	20,582,503
10	Northwestern Mutual Group	069515	17,822,949

Top 10 U.S. Life/Health Companies
Ranked by 2018 Total Admitted Assets

(US$ 000)

Rank	Company Name	AMB#	Admitted Assets
1	Prudential of America Group	070189	577,911,428
2	Metropolitan Life & Affiliated Cos	070192	409,620,949
3	New York Life Group	069714	324,970,928
4	TIAA Group	070362	316,052,536
5	AIG Life & Retirement Group	070342	283,717,128
6	Northwestern Mutual Group	069515	272,266,151
7	Lincoln Finl Group	070351	255,810,967
8	Massachusetts Mutual Life Group	069702	254,871,959
9	John Hancock Life Insurance Group	069542	247,572,469
10	Jackson Natl Group	069578	236,988,672

Top 10 U.S. Life/Health Companies
Ranked by 2018 Capital & Surplus

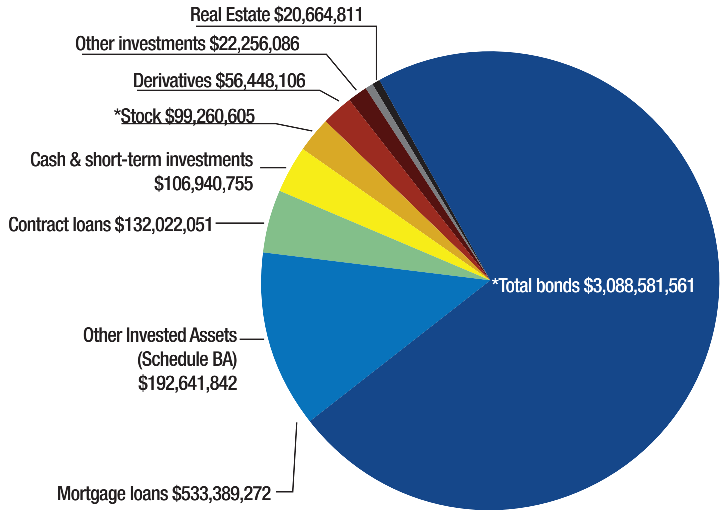
(US$ 000)

Rank	Company Name	AMB#	Capital & Surplus
1	TIAA Group	070362	38,126,304
2	Northwestern Mutual Group	069515	22,134,151
3	New York Life Group	069714	21,006,470
4	Metropolitan Life & Affiliated Cos	070192	17,633,288
5	Prudential of America Group	070189	17,090,946
6	Massachusetts Mutual Life Group	069702	15,609,787
7	State Farm Life Group	070126	12,064,183
8	Pacific Life Group	069720	9,691,434
9	UnitedHealth Life Companies	069973	9,596,976
10	AIG Life & Retirement Group	070342	9,454,360

Source: BESTLINK AM Best data.

annuities, group annuities and ordinary life. Other lines of business include supplemental contracts, credit life, group life, industrial life, group accident & health, credit accident & health and other accident & health.

U.S. Life/Health – 2018 Asset Distribution



Source: BESTLINK *Aggregates & Averages Life/Health U.S. & Canada 2019 Edition.* Securities are reported on the basis prescribed by the National Association of Insurance Commissioners.

According to the 2019 edition of Best's Aggregates & Averages - Life/Health, United States and Canada, Prudential of America Group leads the list of largest life/health groups and unaffiliated singles ranked by total admitted assets, with $578 billion in total admitted assets as of year-end 2018.

Risk Profile

The risk profile of life insurance is very different from that of property/casualty insurance. Life insurance is generally more asset-intensive, and most product liabilities have a substantially longer duration.

The main purpose of life insurance is to cover the risk of dying too early or, in the case of annuities, the risks that may come with living longer than expected. Policies help beneficiaries maintain their standard of living after the policyholder dies. They also can protect beneficiaries and insureds from the possibility of outliving their assets.

While some types of life insurance include a savings component that can provide retirement income, life insurance itself isn't necessarily an investment. But for insurance companies, and especially life insurers, profitability is largely dependent on investment performance. In general, life insurers have enough data surrounding life expectancies and risk classes to determine rates and to accurately predict claims.

Because a policy can remain in effect for decades, life insurers' obligations tend to be relatively long term. As a result, many insurers invest in longer-duration assets such as long-term bonds and real estate.

Life Insurers Chasing Wider Range of Opportunities

AM Best's annual Review & Preview report details a range of issues — and opportunities — facing the life/annuity sectors.

"Larger carriers with more to spend on innovation and connectivity will continue to use advanced analytics and predictive modeling to accelerate the underwriting process and significantly shorten the closing process, areas in which they had already made significant improvements prior to 2018. Insurers are also pushing to capture younger customers by embracing online distribution. However the implementation of a viable direct-to-consumer model to access the middle market remains somewhat elusive, although inroads have been made. Moreover, insurers have become much more open to using cloud technologies and partnering with third parties to help improve and refine data mining and analytics. Carriers are realizing that channel conflicts can no longer be an excuse not to push forward with more innovative and direct methods to reach consumers. However, some products will still need to sold rather than bought.

Consumer sentiment with respect to disposable income has improved, and ongoing demographic shifts, along with the decline of defined benefit plans, could trigger the need for better retirement income and long-term care solutions, and further bolster annuity sales. Of significant interest was the announcement of a partnership between BlackRock and Microsoft to develop "next-generation investment products" designed to provide retirement income solutions through workplace savings plans.

From a new business perspective, the two products with the largest market shares of new annualized life premium are whole life (36%) and indexed universal life (IUL) (24%). Whole life has held on to the market share it has enjoyed since the financial crisis, driven initially by a flight to quality and more recently by a lack of demonstrably better alternatives. However, growth in whole life sales has flatted recently, a trend that AM Best expects will continue.

Insurers have made some progress on improving the overall customer experience and digitizing their end-to-end process, but much more work remains to be done. Meeting the needs of customers at their convenience is critical in today's environment, as consumers are becoming increasingly used to doing transactions 24/7 on a mobile app. Insurers need to play catch up with other industries that are engaging with consumers in ways that were not previously relevant or even possible.

In the career agency market, we have noted sizable investments by some companies to digitalize their financial planning capabilities and provide a total integrated solution to customers through the consolidation and integration of all accounts -- e.g. checking, savings, retirement accounts, brokerage accounts, and insurance precuts (life, annuities).

This integration will likely tie the customer to both the agent and the company and could lower costs, improve persistency, and provide additional comprehensive planning solutions. It may also enhance agent productivity and provide both training and recruiting opportunities to mitigate some of the well-known risk to the agency model — namely an aging workforce, a strong job market, and the lack of appeal to tech-savvy millennials that makes recruiting difficult.

AM Best sees the individual agent model transitioning to a firm of agents who share compensation and are able to complement each other's expertise, similarly to how the financial planning model has evolved over the years. A team-oriented model will also ease another industry challenge, the orphaned policyholder, given that the primary contact point for a policyholder will remain within the firm, despite agent turnover.

Important Lines of Life Business and Products

Life insurers market a variety of life products that range from simple to complex.

Total Life, In Force & Issued: The size of a life company can be measured by the face amount of its portfolio — that is, the amount of life insurance it has issued as well as the amount in force. In force is the total face amount of insurance outstanding at a point in time. Issued measures the face amount of policies an insurer has sold within a given time period.

Permanent Life: Permanent life provides death benefits and cash value in return for periodic payments. Cash surrender value, or nonforfeiture value, is the sum of money an insurance company will pay a policyholder if he or she decides to cancel the policy before it expires or before he or she dies. Over the long term, these products usually produce solid, sustainable profitability that is derived from adequate pricing, underwriting and investment returns. Permanent life products include whole life, universal life and variable universal life.

Whole Life: Pays a death benefit and also accumulates a cash value. These have a high

Top US Life Reinsurers by Life Insurance in Force, 2018

AMB#	Company Name	Total Amount in Force ($000)	% of Total Individual	Group
009863	Canada Life Assurance Co USB*	2,943,084,654	9.2	90.8
009080	RGA Reinsurance Co.	1,875,293,276	94.9	5.1
070253	SCOR Life US Group	1,840,027,921	98.2	1.8
007283	Swiss Re Life & Health America Inc.	1,405,276,831	91.7	8.3
006746	Munich American Reassurance Co.	1,354,817,191	72.1	27.9
068031	Hannover Life Reassurance Co. of America	1,307,947,537	99.9	0.1
060237	London Life Reinsurance Co.*	5,567,308	9.1	90.9
006234	General Re Life Corp.	7,945,000	93.4	6.6
006976	Employers Reassurance Corp.	108,918,728	100.0	0.0
060560	Wilton Reassurance Co.	75,429,161	100.0	0.0
008863	Optimum Re Insurance Co.	70,089,090	100.0	0.0
061745	PartnerRe Life Reinsurance Co. of America	58,225,149	100.0	0.0

* Great-West Lifeco Inc. announced on April 3, 2019, that its three Canadian life insurance companies (The Great-West Life Assurance Company, London Life Insurance Company, and The Canada Life Assurance Company) were moving to a single brand, Canada Life. Additionally, subject to board, regulatory, and shareholder approvals, the three organizations and their holding companies (Canada Life Financial Corporation and London Insurance Group Inc.) started the process to formally amalgamate as a single company.
Source: AM Best data and research

initial expense strain for the issuing company due to large first-year commissions to agents as a percentage of premiums. Over time, whole life provides an income stream to the company and the agent. It carries premium, death benefit and cash value guarantees that other products don't provide.

Universal Life: These are flexible premium policies that incorporate a savings element. The cash values that are accumulated are put into investments with the intention of earning more in interest. Those accumulations can be used to reduce later premiums, or to build up the cash value. For companies offering this product, the premium payment flexibility adds an element of uncertainty, as does the potential for changing market conditions that can affect interest rates. The next generation of this product line, universal life with secondary guarantees, offers competitive rates while providing long-term premium and death benefit guarantees, regardless of actual performance. The tight pricing and high reserve requirements can limit profitability. Indexed universal life is now the most popular iteration of universal life.

Variable Universal Life: These flexible premium policies allow for investments of the cash value into mutual-fund-like accounts the insurance carrier holds in separate accounts rather than in its general account. Because policy values will vary based on the performance of investments, these policies present an investment risk to the policyholder. Rather than having a monthly addition to the cash value based upon a declared interest-crediting rate, the accumulated cash value of the variable policy is adjusted daily to reflect the investment experience of the funds selected. Insurers can be susceptible to profit fluctuations because of the equity market's effect on mutual fund fees. In addition, the insurer lacks control over separate-account assets, and policyholder behavior may impact profitability.

Term Life: Provides protection for a specified period of time. It pays a benefit only if the insured's death occurs during the coverage period. It can be considered a pure protection product and a consumer's entry-level life insurance product. Term periods typically range from one year to 30 years, although there are annually renewable policies, which are designed for longer durations. Term life, which is a highly competitive product, is marketed through many traditional distribution channels, as well as through financial institutions, banks and various direct distribution channels including the internet. More recent products offer long-term premium guarantees, where the premium is guaranteed to be the same for a given period of years. Return of premium (ROP) term products have also become popular of late, offering policyowners a refund of all premiums paid if the insured is still alive at the end of the term period. Concerns to insurers include high lapse rates, compressed margins and high reserve requirements.

Group Life: Generally in the form of term life, group life is marketed to employers or association groups. The cost also may be shared by the participant and the master policyholder, usually the employee and employer, respectively. Typically, an initial benefit level may be paid by the employer, and in some cases, employees may elect to pay for additional coverage. Like with term life, competition is intense.

Annuity Products

Insurance companies provide annuities, which at their most basic are contracts that ensure an income stream. A payment or series of payments is made to an insurance company, and in return, the insurer agrees to pay an income for a specified time period. Annuities can take many forms but have a couple of basic properties: an immediate or deferred payout with fixed (guaranteed) or variable returns. Consequently, different annuity types can resemble certificates of deposit, pensions or even investment portfolios.

Challenges to the Annuity Industry

Life insurance companies must minimize the risk of disintermediation. This happens when deferred annuity holders seeking higher-yielding alternatives withdraw funds prematurely (often during periods of increasing interest rates), and force companies to pay these surrenders by liquidating investments that may be in an unrealized loss position. Insurers can mitigate this risk by matching the duration of its interest-sensitive liability portfolio with the duration of its asset portfolio, and by selling a diversified portfolio of products. Insurers also mitigate risk by designing deferred annuities with market-value adjustments on surrender values.

Immediate Annuities: These annuities are designed to guarantee owners a pre-determined income stream on a monthly, quarterly, semiannual or annual basis in exchange for a lump sum. Options are limited from the annuity holder's perspective, so profits are generally less volatile in the short term. However, the long-term nature of these products exposes the insurer to reinvestment risk and longevity risk.

Group Annuities: These differ slightly from individual annuities in that the payout is dependent upon the life expectancy of all the members of the group rather than on the individual. Many company retirement plans, such as 401(k) plans, are annuities that will pay a regular income to the retiree. Tax-deferred annuity plans—403(b) and 457 plans—also are used widely by public-sector and nonprofit workers.

Deferred Annuities: A type of long-term savings product that allows assets to grow tax-deferred until annuitization. This product category includes:

Traditional Fixed Annuities: These products guarantee a minimum rate of interest during the time the account is growing, and typically guarantee a minimum benefit upon annuitization.

For the issuer, fixed annuities are subject to significant asset/liability mismatch risks, as described above. Also, when interest rates fall, spread earnings—or the difference between the yield on investments and credited rates—can decrease, and asset cash flows must be reinvested at lower rates.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Fixed-Indexed Annuities: These products are credited with a return that is based on changes in an equity index. The insurance company typically guarantees a minimum return. Payouts may be periodic or in a lump sum. The potential for gains is an attractive feature during favorable market conditions; however, gains may not be as favorable as those available from variable annuities or straight equity investments. Sales of these products may decline if equity markets go through a prolonged downturn or a prolonged upturn.

Variable Annuities: The participant is given a range of investment options, typically mutual funds, from which to choose. The rate of return on the purchase payment, and the amount of the periodic payments, will vary depending on the performance of the selected investments and the level of expense charges in the product.

Variable annuity sales tend to slump during unfavorable equity market conditions. In addition, the primary sources of revenue for these products are account-value-based fees, which also decline when market conditions deteriorate. Relatively thin margins, increasing product complexity (e.g., guaranteed living benefits) and volatile capital requirements put variable annuities at the riskier end of the product continuum, from the standpoint of the issuing insurer.

Because variable annuities allow for investments in equity and fixed-income securities, they are regulated by the U.S. Securities and Exchange Commission. Fixed annuities and fixed-indexed annuities are not securities, and as such, are not regulated by the SEC.

Accident & Health Products

Credit Accident & Health: This insurance covers a borrower for accidental injury, disability and related health expenses. It is designed specifically to make monthly payments until the insured can recover and resume earning income. If an individual is totally disabled for the life of the loan, the policy would pay the remaining balance, in most cases, but only one month at a time.

Group Accident & Health: These plans are designed for a natural group, such as employees of a single employer, or union members, and their dependents. Insurance is provided under a single policy, with individual certificates issued to each participant.

Other Accident & Health: Products that fall into this category could be policies for individuals that cover major medical, disability insurance, long-term care, dental, dread disease or auxiliary coverages such as Medicare supplement.

'Triggering' More Protection Awareness?

Slogging through the lengthy and invasive application process to buy life insurance remains discouraging for many consumers.

But daunting obstacles exist beyond the paramedical exam and a wait that can drag on for weeks or even months.

"Before that there's a larger constraint, which is: People just don't think about life insurance enough," said USAA's Rob Schaffer, vice president for life and health solutions. "Gaining their attention is a larger hurdle for us."

Like most life insurers, USAA reaches out to clients as key life events occur, such as a wedding, the birth of a child and the purchase of a home, to target new customers or up-sell or cross-sell to members.

Study after study from insurers, consultants and brokers reveal that these milestones—also known as trigger events—are a prime opportunity.

Tailored outreach around those milestones generates sales up to 14 times more often than during other periods, McKinsey & Company said in its 2017 report, "Unlocking the Next Horizon of Growth in the Life Insurance Industry."

Companies are using enhanced technology, data management and predictive analytics tools to identify those approaching life events, microtarget potential customers and tailor their outreach.

"You have to convince people that it's an important thing, and you have to make it easy," said Bill White, vice president for life insurance and investment products at USAA. "Saving for retirement, buying protection products like life insurance—those are things that people walk past. Life gets in the way."

Mass and middle market consumers—roughly 68 million American households—are "the next horizon of growth," according to McKinsey. Fifty-seven percent of those households do not own individual life insurance.

Even those that do often fail to increase coverage as their needs grow.

However, some industry figures find that the trigger event strategy may be more effective in raising awareness than necessarily leading to sales.

Rob Schaffer

"USAA absolutely focuses on life events just like every good financial planning firm would do," White said. "Life events raise awareness of the need. But they may not trigger a purchase at that moment."

One problem is young families often find themselves cash-strapped after such life-changing, but wallet-draining milestones. They also happen to be busy times in people's lives, and insurance protection can get lost on a list of deadline-driven priorities.

For instance, a couple buying a house for the first time often stretches their budget to do so, making an additional discretionary expense unaffordable.

Other clients might be motivated by a near-miss experience such as a car accident, Schaffer said. Another driver could be loss of a relative or a close friend.

But is that the right time to pitch a customer?

Opportunity awaits—if insurers can identify the right moment.

"We have a great portion of those who are acquiring life insurance from us already experiencing those life events," said Schaffer, who served in the Marine Corps for 10 years. "I just don't feel like we've actually cracked that egg as well as I would like. We have started applying data analytics and modeling to fully understand when is the best time to approach consumers."

Just as USAA and others are experimenting to find the right data and algorithms to substitute for a life policy medical exam, they also are searching for the right time to approach customers.

"In the life insurance space, most folks don't wake up and think, 'Today is the day that I'm going to get life insurance,'" Schaffer said.

— Jeff Roberts

Health Market at a Glance

Health insurers focus principally on providing health care coverage and related protection products. AM Best's database contains annual filing information for more than 1,000 single health insurance companies in the United States. According to the U.S. Department of Labor, more than 545,000 people worked in the health insurance industry in 2019.

Health insurers typically have shorter investment horizons than life insurers or property/casualty insurers that focus on liability coverage. Health insurers are measured by premiums and membership in their programs, sometimes known as "covered lives."

A report by the Kaiser Family Foundation estimates that 49% of the U.S. population was covered by employer-sponsored health insurance. Another 21% was covered by Medicaid, a joint federal-and-state program for those of limited financial means. Another 14% of the population was covered by Medicare, which is designed for seniors. About 9% of the U.S. population has no insurance. Individuals who purchase health insurance on their own account for 7% and 1% of the population is covered through other public means.

Comprehensive health insurance policies pay benefits for insureds for preventative care and when they become ill or injured. Managed care is the most common form of coverage. In managed care, insurance companies establish fee agreements with doctors and hospitals who provide health care services.

If health insurance is provided through employment, the employer typically pays the insurer a set amount of money in advance for all health care costs. The employee may have to contribute a portion of the premium to the employer via a payroll deduction. The employee then pays a flat amount for the services as either a copayment or a percentage of the cost of covered services provided.

In most managed care plans, doctors or hospitals are chosen from a network of providers. Some managed care plans allow for visits to doctors outside the network, at a greater cost to the employee.

Some of the largest carriers of health insurance are Blue Cross Blue Shield plans and publicly traded companies. Blue Cross Blue Shield companies operate independently as part of an association. Blue Cross companies originally focused on hospitalization coverage. Blue Shield companies originally focused on coverage for doctor visits. The two associations merged and its independent licensees now provide health insurance coverage options for employer groups and individuals.

Developing Issues for Health Insurers

According to AM Best's annual Review & Preview report on the U.S. health insurance sector, the health insurance industry faces a range of opportunities and challenges, largely related to an aging population and evolution of the Patient Protection and Affordable Care Act. This cuts across insurance sectors.

In the U.S., an estimated 10,000 people turn 65 each day and age into the Medicare program. The growing senior population has the interest of health insurers, which has resulted in membership and revenue growth potential for Medicare Advantage, Medicare Prescription Drug, and Medicare supplement carriers. Insurance companies are also expanding their senior product offerings for supplemental health policies such as vision, hearing, critical illness and dental.

Insurers' exposure to older legacy LTC insurance remains a top credit concern for the industry. Insurance companies have been forced to file for actuarially justified premium rate increases and strengthened reserves to stay above water. Long-term care insurers have faced a number of challenges related to the mispricing of many assumptions embedded in the offering, including mortality rates, morbidity rates, lapse rates and policy utilization rates. Many uncertainties remain in these blocks. Given the long-tail nature of the liabilities, mispricing of the LTC product has negatively affected insurers' earnings and capital for many years. Transparency remains a struggle; the industry recently adopted Actuarial Guideline LI (AG 51), which should bring consistency and transparency in the asset adequacy analysis of long-term care. The guideline essentially provides clarity for insurance companies on the required methodology to be used to calculate long-term care reserves.

The long-term care segment remains challenged. The older blocks continue to see higher loss ratios and have required rate increases and additional reserves. Some reserve increases in 2018 were quite sizable. What's more, fewer carriers are selling long-term care policies, causing buyers to look for alternatives, particularly as the population ages. Short-term care policies have become more popular, as they are a more affordable alternative but offer a limited benefit. Combination products such as long-term care riders to life or annuity policies are also becoming an alternative to pure long-term care coverage.

In June 2018 the Department of Labor (DOL) issued a final rule allowing the formation of Association Health Plans (AHPs). By definition, these are group health plans that employers and associations offer to provide health coverage for their members' employees. Thus, through associations, small employers may gain the regulatory advantages afforded to large employer groups, as well as better pricing. The DOL estimates a potential market of 15 million individuals working in small businesses or operating sole proprietorships that lack health insurance coverage. According to the Congressional Budget Office, up to an estimated 400,000 previously uninsured people will gain coverage through AHPs, but not all states have adopted the final rule regulations and some have restricted them.

Major Types of Health Plans

HMO (Health Maintenance Organization): Members select a primary care physician, who oversees all aspects of the members' medical care and provides referrals to see specialists. Most services received from doctors or hospitals out of the plan's network are not covered.

PPO (Preferred Provider Organization): A network of doctors, hospitals and other health care providers make up the organization, but the PPO also allows a member to go to specialists, out-of-network doctors or hospitals without needing prior authorization from a primary care physician. However, more of the costs to receive care outside the network are shouldered by the member.

POS (Point of Service): The member designates a primary care physician but retains the option to receive services from doctors without a referral or go outside the network for care and shoulder a larger portion of the cost.

Fee-for-service health plans, or indemnity plans, were once the traditional route for coverage. There is no network of pre-approved providers, so a member can choose to visit any doctor or hospital. These plans cost the most and have dwindled sharply in the past 30 years.

Some insurers offer plans that combine a high-deductible health plan (HDHP) with a pretax health savings account (HSA). The HSA pays for qualified and routine health care expenses with tax-free money until the deductible is met; then the insurance coverage takes over. The funds in the HSA also can be used for expenses the HDHP doesn't cover, and HSA balances carry forward to future years.

Consolidated membership and revenue growth for group health insurance has been limited for many years. More employers currently elect to self-insure employee health benefits and an increased number of small group employers no longer offer health benefits.

In addition, the price of health coverage has become a focal point when employers look to provide coverage for their employees. Many employers have implemented benefit modifications to lower the impact of premium rate increases at renewal, as well as increased employee cost sharing.

Products and Terms

Health products come in a wide variety of forms and address basic health needs, ranging from preventative and basic medical care to specialized forms of illness and accident coverage. Health products include:

Indemnity Health Plans: These may be offered on an individual or group basis.

US Health Insurers' 2018 Net Income ($000)

AMB #	Ultimate Parent	2018
058106	UnitedHealth Group Incorporated	6,962,575
009193	Health Care Svc Corp Mut Legal Reserve	5,648,190
058180	Anthem, Inc.	4,245,864
044026	Cigna Corporation	3,986,804
052060	CVS Health Corporation	2,347,657
064585	Kaiser Foundation Health Plan Inc	2,141,052
058052	Humana Inc.	1,956,307
033945	GuideWell Mutual Holding Corporation	1,161,481
051149	Centene Corporation	979,745
060081	Blue Cross Blue Shield of MI Mut Ins Co	810,986
051101	Molina Healthcare Inc	769,528
064002	BlueCross BlueShield of Tennessee Inc	669,234
064070	Blue Cross & BS of NC	650,382
033398	Highmark Health	522,846
064012	California Physicians' Service	482,185
051131	Premera	415,099
060080	Blue Cross and Blue Shield of Alabama	404,514
046181	Independence Health Group, Inc.	402,897
064022	Horizon Healthcare Services Inc	361,224
001727	Blue Cross&Blue Shield of South Carolina	308,071
051129	Medica Holding Company	300,011
051244	WellCare Health Plans, Inc.	294,163
064607	Vision Service Plan (CA)	281,341
051045	Cambia Health Solutions, Inc.	269,362
051641	CareFirst, Inc.	261,724
051028	Dentegra Group Inc	246,357
068347	Wellmark Inc	211,622
068440	Louisiana Health Service & Indemnity Co	181,892
050832	Aware Integrated Inc	178,049
064562	Blue Cross and Blue Shield of MA	159,559
064465	Blue Cross Blue Shield of Arizona Inc	158,746
004693	Medical Mutual of Ohio	153,621
050837	Lifetime Healthcare Inc	150,101
051365	Intermountain Health Care Inc	143,101
064652	Local Initiative Health Authority of LA	140,531
052498	Sentara Healthcare	139,651
034009	Spectrum Health System	137,222
031873	University of Pittsburgh Medical Center	137,125
065165	Common Ground Healthcare Cooperative	135,491
046816	Tufts Health Plan, Inc.	134,304
060070	Blue Cross and Blue Shield of Kansas Inc	110,772
051973	Renaissance Health Service Corporation	90,772
032795	Geisinger Health System Foundation	84,703
050004	Gateway Health Plan L.P.	83,639
034011	Providence Health & Services	76,184
068973	Harvard Pilgrim Health Care Inc	72,923
064554	Capital Blue Cross	69,265
064035	Hawaii Medical Service Association	68,895
068731	HealthPartners Inc	67,872
064015	Blue Cross & Blue Shield of Kansas City	64,506

Source: AM Best

Indemnity plans allow members to choose their own doctor or hospital. The carrier then pays a fixed portion of total charges. Indemnity plans are often known as "fee-for-service" plans.

High-Deductible Health Plans: These may feature low premiums and an integrated deductible for both medical and pharmacy costs. Some plans combine a health plan with a Health Savings Account.

Health Savings Accounts: Participants and/or their employers may contribute pretax money to be used for qualified medical expenses. HSAs, which are portable, must be linked to a high-deductible health insurance policy.

Health Reimbursement Arrangements: HRAs are funds provided by the employer that employees utilize for covered services. Any leftover funds can carry over from year to year. However, HRAs are not portable.

Dental Plans: Traditional dental plans may help cover preventive, basic and major services.

Dental Preferred Provider Organizations: These offer discounts to members who use in-network dental providers.

Vision Plans: Vision care plans may cover regular eye exams, treatment for conditions and assistance with corrective lenses.

Pharmacy: Plans may cover part or all of prescription drug costs.

Flexible Spending Account: A program where employees may contribute pretax money to be used for medical expenses, including copays, coinsurance, and any non-covered services or over-the-counter medication.

Medicare Advantage: This provides Medicare-eligible individuals the benefits of traditional Medicare, plus additional features and benefits such as wellness program and case management services. Individuals who select Medicare Advantage agree to use in-network doctors and hospitals or face much higher out-of pocket costs.

Common Health Insurance Terms

Coinsurance: For health insurance, it is a percentage of each claim after the deductible is paid by the policyholder. For a 20% health insurance coinsurance clause, the policyholder pays for the deductible plus 20% of covered benefits. After paying 80% of losses up to an out of pocket maximum, the insurer starts paying 100% of losses.

Copayment: A predetermined, flat fee an individual pays for covered health care services, in addition to what insurance covers. For example, some HMOs require a $20 copayment for each office visit, regardless of the type or level of services provided during the visit. Copayments are not usually specified by percentages.

Disease Management: A system of coordinated health care services and communications with members who have certain medical conditions.

What's the Score? It Just Might Be Polygenic Risk

The news reverberated across the science world and even crossed over into the mainstream media.

In 2018, researchers published a study indicating that the cumulative variants in a person's genome could help predict susceptibility to some of the leading causes of death worldwide.

The experts from the Broad Institute of MIT and Harvard, Harvard Medical School and Massachusetts General Hospital used polygenic risk scores to encapsulate that risk.

The emerging metric is a diagnostic measurement of how mutations in the 6.6 million locations across the human genome can impact a person's health.

Polygenic risk scores are just one development in the large spectrum of emerging genetic advancements. But they are in the spotlight because many experts believe common diseases such as heart disease and certain cancers are polygenic, meaning originating from multiple genes, not just one deterministic mutation.

"With polygenic risk scores, there's a lot of excitement," said Christoph Nabholz, managing director and head of life and behavior research and development in Swiss Re's underwriting department.

They seek to identify high-risk groups that otherwise might go undetected because common risk assessment tools—for example, cholesterol and blood pressure for heart disease—do not capture a person's complete health picture.

In fact, doctors at the University of Pennsylvania will implement polygenic risk scores into preventative care strategies for those at risk of heart attacks, The *New York Times* reported. And Dr. Sekar Kathiresan, one of the researchers involved in the August study, hopes to have a score for coronary artery disease on the market in 2019.

Those researchers are also planning to build a portal to allow people to upload genetic data from commercial companies such as like 23andMe or Ancestry.com.

Christoph Nabholz

In turn, the volunteers will receive free risk scores for heart disease, breast cancer, Type 2 diabetes, chronic inflammatory bowel disease and atrial fibrillation.

Compiling the risk posed by millions of spots in the genome into a single score can help identify those who have an elevated predisposition to disease.

The potential value for insurers comes in screening and detecting illness before it's symptomatic.

It also poses an opportunity for prevention, allowing doctors to develop proactive plans and policyholders to mitigate their risk through lifestyle changes.

"We do see a lot of importance in polygenic risk scores going forward," said Dr. Dave Rengachary, senior vice president and chief medical director, U.S. mortality markets for Reinsurance Group of America. "When you think of the diseases that really drive morbidity and mortality—diabetes, coronary artery disease, breast cancer—they're controlled by hundreds and thousands and even millions of genetic variants.

"And so then it really falls upon the polygenic risk scores to put all of the genetic variants together into a model and to really understand how these particular diseases affect mortality and morbidity."

RGA has collaborated with King's College London to study polygenic risk scores and other genomic advances for two years and plans to continue for at least another three years.

They have found that PRSs can make a significant statistical contribution to risk prediction for breast cancer and coronary artery disease above and beyond the factors normally included in underwriting risk.

However, much more work needs to be done. Nabholz, for one, says the evidence thus far is lacking that polygenic risk scores can make "a significant change in the risk assessments."

The biggest concern is the lack of ethnic and geographic diversity among the DNA data that researchers have collected and used to develop scores. The information originated mostly from people of European ancestry, and the scores' predictive power may only apply to that population.

Experts also are concerned how patients will react when given their scores.

"Clearly, on polygenic risk scores, there's lots of work that still needs to be done," said RGA's Richard Russell, lead health data scientist, global research and data analytics. "I hesitate to talk about the application in the insured world because they still remain controversial in how they can be used in the clinical world.

"But at the same time, there's lots of potential there."

— Jeff Roberts

Overview of Reinsurance

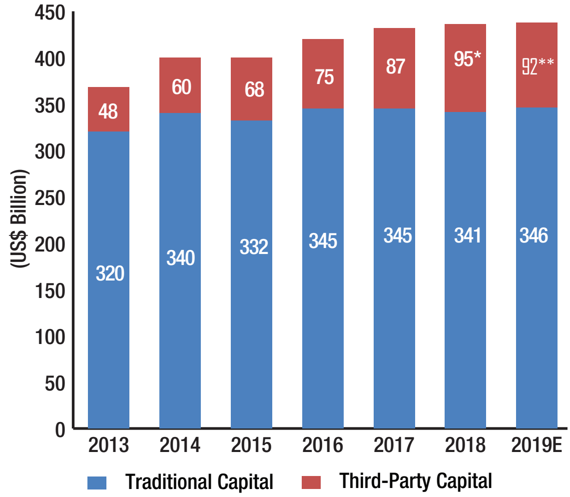
Broadly put, reinsurance is insurance for insurers.

Insurance companies face many risks in their daily operations, including:

- **Asset risks**, or the changing nature of investment values.
- **Credit risk**, or the obligations owed by customers and/or debtors.
- **Liability risk**, or potential losses due to inadequate pricing or reserving, or from catastrophes and other events.

Reinsurance is a transaction that indemnifies the primary insurer against those potential losses. The primary insurer, or ceding company, transfers a portion of risk to the reinsurer. How much risk and what conditions trigger the reinsurance are specified in the treaties. Generally, the primary carrier retains a fair amount of the risk.

Global Reinsurance – Estimated Dedicated Reinsurance Capital



*20-25% of Third-Party Capital trapped in 2018
**15% of Third-Party Capital trapped in 2019
E=AM Best and Guy Carpenter estimate
Source: AM Best data and research, in conjunction with Guy Carpenter

Reinsurance allows insurers to increase the maximum amount they can insure. However, most reinsurance contracts do not absolve the ceding insurer's responsibility to pay the insurance claims should the reinsurer fail. The first reinsurance companies were born out of a major fire in 1842 that burned a large section of Hamburg, Germany, and killed at least 50 people. The conflagration exposed the inability of insurers to cope with such a catastrophe, and the insurers recognized the need to distribute risk portfolios among several carriers.

For a basic reinsurance scenario, take an office building worth $20 million. A primary carrier may accept the risk of loss and then turn to a reinsurer, agreeing to cover the first $10 million and ceding the rest. If losses at the building then were to exceed the primary layer of $10 million, say $14 million, the reinsurer would be called upon to cover the remaining $4 million.

In a case like this, the arrangement is said to be a nonproportional agreement, also known as an excess of loss agreement. In proportional agreements, the primary insurer and reinsurer share the liability risk proportionately. In the case of a quota share agreement, the primary insurer and reinsurer split the premiums and losses on a fixed percentage basis.

The two basic types of reinsurance arrangements are treaty and facultative. Treaty reinsurance contractually binds the insurer and reinsurer together, with respect to certain specified business. The treaty requires the insurer to cede all the risks specified by the agreement with the reinsurer, and the reinsurer must assume those specified risks. This means that the reinsurer automatically takes the risk for all policies that are covered by the treaty, and not just one particular policy.

Facultative reinsurance, on the other hand, is done more on a case-by-case basis. The reinsurance is issued after an individual analysis of the situation and by deciding coverage case by case. The reinsurer can determine if it wants some or all of the risk associated with that particular policy. This arrangement usually takes place when the risks are so unusual or so large that they aren't covered in the insurance company's standard reinsurance treaties.

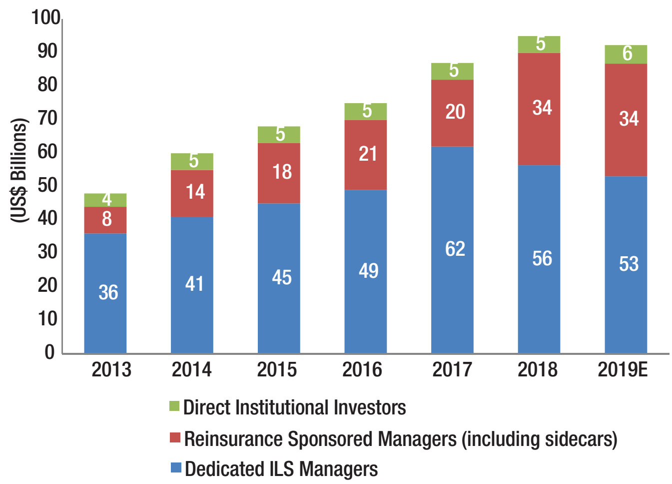
Reinsurers also can purchase reinsurance to cover their own risk exposure or to increase their capacity. This process is called a retrocession.

Developing Issues in Reinsurance

AM Best's 2019 annual report on the global reinsurance industry describes an industry facing challenges that won't be addressed by relying only on strategies and tactics that have worked in the past. It's also an industry that is rapidly marrying new sources of capital to traditional reinsurance expertise. Report highlights include:

Third party capital has been around for well over a decade but over the last five years has proliferated more rapidly as investor interest has increased and reinsurance structures have become more varied in form. What is clearly transpiring through this aspect of the market's evolution is that third party capital is becoming more closely aligned with traditional reinsurance capital.

Global Reinsurance – Estimated Third-Party Capital



E=Forecast by Guy Carpenter and AM Best
Source: AM Best data and research, in conjunction with Guy Carpenter

We know for certain that the world will not stay the same. Therefore reinsurers must move forward and embrace change or risk extinction. Organizations can choose to do things as they always have and miss out on innovation, or they can welcome transformation and enjoy the benefits of development and growth. If there is a silver lining to all that has transpired in the global reinsurance market over the past 10 years, it is one that has only been obtainable by those organizations that have embraced the market's evolution brought about by innovation in the business model. Discussions around innovation naturally center on technology. Although technology is a key component of innovation and makes change possible, it is not the only one. More paramount to the evolution that is transpiring in the reinsurance space has been the sourcing of new, cheaper sources of capital on one end and more inventive ways to source risk on the other. Technology, at times, plays a role in both.

As third party capital has grown in prominence and almost literally taken over the retro reinsurance space, it has provided ballast for traditional reinsurers to continue to offer property catastrophe capacity to clients despite the rate pressures that exist in that space. Beyond retrocession, many traditional reinsurers have been at the forefront of managing this capacity on behalf of investors by using sidecar vehicles, which for the investor and underwriter allows for a strong alignment of risk in terms of sharing profit and reputational risk. So it should be no surprise that more recently a growing number of M&A transactions have brought together traditional and third-party capital providers. This increasing alignment should serve to bring about a more rational and stable pricing environment, at least in the property catastrophe segment of the market.

The global life reinsurance market is dominated by just five large carriers, which account for the vast majority of assumed business. While almost all of the largest carriers write both life and nonlife reinsurance business, life reinsurance comprises at least 40% of the gross premium written. Moreover, the US accounts for approximately one half of global life reinsurance premiums. The global life reinsurance segment has been a source of stability to the overall global reinsurance market for the past several years, the primary factors being the following:

- Mature markets continue to experience only modest growth; expansion opportunities remain plentiful in emerging markets.

- Market potential in the retirement space is very favorable.

- Global life reinsurance has experienced strong return metrics, reflecting high barriers to entry and limited pricing pressures from new entrants.

- The leading life reinsurance carriers maintain solid and defensible market positions, with moderate premium growth and strong earnings from their seasoned mortality books of business.

• While traditional reinsurance remains somewhat stagnant due to historically low cession rates, reinsurers are benefitting from an active pipeline of blocks of life insurance and interest-sensitive business.

• Global life reinsurance business is poised for meaningful growth driven by Solvency II capital requirements and low investment returns.

• Asia-Pacific represents a meaningful portion of global life business, with double-digit growth rates.

• UK pension longevity business opportunities are greater than current capacity.

Top 25 World's Largest Reinsurance Groups

Ranked by Unaffiliated Gross Premiums Written in 2018

(US$ Millions)[1]

2019 Ranking	Company Name	Reinsurance Premiums Written: Life & Non-Life Gross	Life & Non-Life Net	Non-Life Only Gross	Non-Life Only Net	Total Shareholders' Funds[2]	Ratios[3]: Loss	Expense	Combined
1	Swiss Re Ltd.	36,406	34,042	20,864	20,220	28,727	74.2	32.4	106.6
2	Munich Reinsurance Company	35,814	34,515	23,395	22,570	30,336	65.2	34.2	99.4
3	Hannover Rück SE[4]	21,952	19,791	13,709	12,368	10,923	66.9	29.5	96.4
4	SCOR S.E.	17,466	15,773	7,069	6,115	6,672	66.5	32.8	99.3
5	Berkshire Hathaway Inc.	15,376	15,376	9,930	9,930	352,500	88.6	21.9	110.4
6	Lloyd's[5,6]	14,064	9,926	14,064	9,926	34,846	72.2	33.8	106
7	China Reinsurance (Group) Corporation	11,564	10,681	3,942	3,809	12,689	58	40.9	98.8
8	Reinsurance Group of America Inc.	11,341	10,544	N/A	N/A	8,451	N/A	N/A	N/A
9	Great West Lifeco	7,737	7,647	N/A	N/A	20,096	N/A	N/A	N/A
10	Korean Reinsurance Company	6,803	4,786	5,972	4,058	2,014	83.7	17.8	101.5
11	General Insurance Corporation of India[7]	6,582	5,684	6,503	5,611	7,932	88.4	16.9	105.3
12	PartnerRe Ltd.	6,300	5,803	5,065	4,592	6,517	73.7	28.1	101.8
13	Everest Re Group Ltd.	6,225	5,706	6,225	5,706	7,904	86.6	26.3	113
14	XL Bermuda Ltd.	5,219	4,135	5,002	4,124	9,698	80.6	32.2	112.8
15	Transatlantic Holdings, Inc	4,451	3,969	4,451	3,969	4,724	72.8	32.6	105.4
16	MS&AD Insurance Group Holdings, Inc.[7,8]	3,657	N/A	3,657	N/A	25,058	N/A	N/A	N/A
17	RenaissanceRe Holdings Ltd.	3,310	2,132	3,310	2,132	5,045	56.7	30.9	87.6
18	R+V Versicherung AG[9]	3,231	3,164	3,201	3,146	2,461	73.8	25.3	99.1
19	MAPFRE RE, Compania de Reaseguros S.A.[10]	3,215	2,654	2,602	2,045	1,910	71.6	26.7	98.3
20	AXIS Capital Holdings Limited	3,112	2,334	3,112	2,334	5,030	69.8	28.6	98.4
21	Arch Capital Group Ltd.[11]	2,648	1,977	2,648	1,977	10,231	70	27.6	97.6
22	The Toa Reinsurance Company, Limited[7,8]	2,557	2,205	2,557	2,205	1,623	82.9	26.6	109.5
23	Assicurazioni Generali SpA	2,199	2,199	935	935	28,210	65.2	26.1	91.3
24	Sompo International Holdings, Ltd.	1,996	1,573	1,996	1,573	6,967	64.9	32.2	97.1
25	Pacific LifeCorp	1,981	1,981	N/A	N/A	13,072	N/A	N/A	N/A

[1] All non-USD currencies converted to USD using foreign exchange rate at company's fiscal year-end.
[2] As reported on Balance Sheet.
[3] Non-Life only.
[4] Loss and expense ratio detail not available on a GAAP basis.
[5] Net premium written data not reported, net premium earned substituted.
[6] Lloyd's premiums are reinsurance only. Premiums for certain groups within the rankings also may include Lloyd's Syndicate premiums when applicable.
[7] Total shareholders' funds includes Lloyd's members' assets and Lloyd's central reserves.
[8] Fiscal year-end March 31, 2019.
[9] Net asset value used for total shareholders' funds
[10] Ratios are as reported and calculated on a gross basis.
Source: AM Best data and research

Alternative Risk Transfer and Risk Financing

The blurring of boundaries between insurance and capital markets is most evident in structured finance, part of an area that is broadly known as alternative risk transfer.

The highest-profile members of the ART community are captives—insurance or reinsurance companies owned by their insured clients and located in jurisdictions, or domiciles, that may be tax friendly or may have reduced capital and reserve requirements. Captives typically are formed by one or more noninsurance companies when traditional market coverage is more limited, or when the parent companies wish to have more direct control of their own risks.

Structured finance is a complex process of transferring risk, often with the purpose of raising capital. Much of the activity revolves around risk securitization, whereby the involved assets are not used as collateral as is typically found in a loan scenario. Instead, funds from investors are advanced to the originator based on the history of those assets, indicating a cash flow into the originator's business. The assets are then transferred by the originator to a separate legal entity—a special purpose vehicle—that in turn issues securities to the investors. Interest and principal paid on those securities are financed by the cash flow.

Insurance-Linked Securities And Structured Transactions

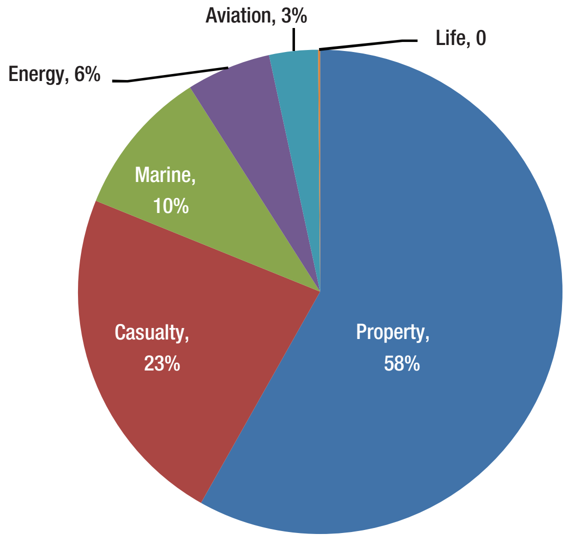
Capital markets participants, reinsurers, brokers and insurers continue to collaborate in various combinations to create new risk-based offerings, including:

Natural Catastrophe Bonds: An alternative to reinsurance, these securities are used by insurers to protect themselves from natural catastrophes. Typically, they pay higher yields because investors could lose their entire stake in the event of a disaster. If the catastrophe happens, the funds go to the insurer to cover claims.

Sidecars: Separate, limited purpose companies, generally formed and funded by investors (usually hedge funds) that work in tandem with insurance companies. The reinsurance sidecar purchases certain insurance policies from an insurer and shares in the profits and risks. It is a way for an insurer to share risk. If the policies have low claim rates while in possession of the sidecar, the investors will make higher returns.

Surplus Notes and Insurance Trust-Preferred CDOs: Surplus notes and trust-preferred CDOs (collateralized debt obligations) provide another funding source for small and midsize insurance companies that find it costly to issue capital on their own. These companies can access the capital markets through the use of the surplus notes/insurance trust-preferred pools. Securities in these pools are issued by a stand-alone SPV and sold to investors. The proceeds of the notes are used to purchase the transaction's collateral, which consists of surplus notes and insurance trust-preferred securities.

Lloyd's – Reinsurance Premiums, 2018



Source: Lloyd's Annual Report 2018

Embedded Value (Closed Block) Securitizations: An insurer can close a block of policies to new business and receive immediate cash from investors in exchange for some or all of the future earnings on that block of business. The pledged assets remain with the insurer and are potentially available in the event of an insolvency.

Securitization of Structured Settlements: A structured settlement is an annuity used for settling personal injury, product liability, medical malpractice and wrongful death cases. The defendant (typically, a liability insurer) discharges its obligation by purchasing an annuity from a highly rated life insurance company. Securitization of annuity cash flows is achieved through the use of a bankruptcy-remote SPV. The issuer of the securities, the SPV, raises funds from investors that are used to purchase annuity cash flows from the annuitants. The cash flows received by the issuer are used primarily to service the principal and interest payments due the investors.

Mortality Catastrophe Bonds: Investors in these bonds lose money only if a level of deaths linked to a catastrophic event exceeds a certain threshold. The event's trigger is extreme (for example, a pandemic). These are a derivative of natural cat bonds.

Life Settlement Securitizations: A life settlement contract is a way for a policyholder to liquidate a life insurance policy. A portfolio of these contracts may be securitized to provide a source of capital. However, certain variables, such as regulatory issues and the uncertainties associated with predicting life expectancies, can create obstacles that may slow their path to the marketplace.

Securitization of Reinsurance Recoverables: Insurance and reinsurance companies have been finding alternative ways to reduce their exposure to uncollectible recoverable and reduce the concentration risk associated with ceded exposures. One approach is the securitization of reinsurance recoverables, which involves a structured debt instrument that transfers risk associated with the risk of uncollectible reinsurance to the capital markets. This risk transfer may also be accomplished through the use of collateralized debt obligation technology.

Lessons In Leadership

Brian Duperreault knows a lot about leadership. Not only is he the president and chief executive officer of AIG, but he has held several top executive positions including CEO of Marsh McLennan, Hamilton Insurance Group and Ace.

Duperreault views leadership as a learned skill and stresses the need to recognize the team as the true leader, not the CEO. In an interview with AMBestTV he also stressed how important it is for a leader to be surrounded by different points of view. It's easy to surround yourself with a team that's acting as an echo chamber of your thoughts, he said, but "it's a harder job to manage a diverse group. If you don't master that skill you'll be left behind."

What Does It Take to Be a Strong Leader?

I really believe in a servant-leader model. What that means is if you're a strong leader you put the team before you. The team is everything. Your leadership is to maximize the team's efforts, rather than maximizing your own. Indirectly, if your team succeeds, then you succeed. The strongest leaders I know defer to the team, put the team first, put the company first. They're second.

What leadership skills are even more important in insurance?

Insurance has, for us who take risk, this added uncertainty about it. When you're leading in a company that's taking risk you have to be prepared to deal with the consequences of that risk. Sometimes those consequences can be quite severe. You may do everything right and still have issues. Your leadership has to withstand the vagaries of the future.

How Did You Learn to Be A Leader?

My learning is repetition. You take leadership roles and you build up skills. As I said, put the team first, always.

In learning to be a leader you have to learn not to do their work, but have them do their work better. You can't do it for them. You should learn from others—having role models, seeing the people that you've been led by. To be the leader you also have to be a good follower. You should learn from others. The people that you thought were the best, emulate them, apply those skills.

Brian Duperreault

It's an application of skills. It's learning by doing. Repetition is everything.

In insurance itself, this is apparently a time of transition. You're seeing a lot of older, experienced leaders retiring. You're seeing an influx of new talent, new skills. How do they learn? What advice would you give them to be leaders?

How do the new people learn their skills? When you're coming in as a generation that's a digital native, let's say, as opposed to me, who's a digital immigrant, taking the skill sets that you bring naturally with you to the job is part and parcel to how you can step in.

Your job is to not just repeat the past, but to use it to mold the future. Taking skills that you have that we don't have, those leaving, you'll replace them with some of those skills, but new skills, skills that have emerged because of the evolving world we're in. That's how you grow.

What Do You Consider to Be Your No. 1 Challenge As A Leader, and How Do You Deal With That?

No. 1 challenge? The business that we do, and I'm speaking particularly as the risk-taking side of insurance, is to step in people's shoes. We say let us take your risk. It's an uncertain world out there, and so we go to the cutting edge of uncertainty, because we're taking some of the uncertainty away from them and taking it on ourselves.

The biggest challenge is how do you deal with this process of taking on more and more uncertainty; how do you manage the company around that; how do you prepare yourself and your organization to do what's right. You don't go extreme. You don't put the company at risk, but you do your job, which is to absorb the risk from others.

As a member of an organization there are always mistakes, especially as a leader, both mistakes you make and others make. How do you handle those?

First of all, everybody makes mistakes, as you said. To me, that's not the problem. The problem is not recognizing them. The biggest mistake is not dealing with the mistakes, if you don't address them head-on, if you don't admit them. You have to own your own. You can't blame others, then you'll start to get the credibility. If you take them on, you'll get the credibility of your team, your company, and all who are associated with you. Address them. Deal with them, even if it means it might expose you to some criticism because you should have done something you didn't. Your criticism's going to be even greater for not addressing it in the first place or not in a timely manner.

Is There Anything That You Want to Share With Us About Leadership?

Leadership, it's a learned skill. You can learn it. It's something you've got to work on. As we said, it's recognizing the team is more important than you. It also is evolving, in terms of the kind of skills you need to be a good leader. As we become more and more of a digital world, the skills around that are required. I would say most importantly it's embracing diversity. It can't be just a slogan. You have to live it. You have to manage diversity. Leaders and managers have to get the skill set of diversity management, because it's hard. It's hard, because you want to have everybody giving you points of view that are not your own, then you have to sort all that out. It's easy to lead a group of people, as I said, in an echo chamber of repeating your statements. It's when you have to deal with all of the diversity that you want, and people telling you to do certain things that at the end of the day the group should not do. You've got to sort all that out and get everybody to agree, after you go through that process, to go in this direction. It's a harder job to manage a diverse group, but if you don't master that skill, you'll be left behind.

— Lori Chordas

Insurance Stands the Traditional Business Cycle on Its Head

Most industries work as follows:

- Build product.
- Incur costs.
- Price product.
- Sell product.
- Generate revenue.

But insurance works largely in reverse:

- Build product.
- Price product.
- Sell product.
- Generate revenue.
- Incur costs.

The significance of this reversed revenue/cost cycle is that the product is priced and sold based on an estimate of future costs to be incurred. These estimates can be wrong for any number of reasons, including catastrophes, claim cost inflation, changes in legal climate, newly identified exposures not known at the time the insurance policy was sold, social changes, investment market fluctuations and other factors.

This means that insurers must be very good at predicting the future and very prudent in administering their business over the long term. It directly results in what are known as underwriting cycles. It's also an important reason why the number of insurance insolvencies sometimes spikes in periods following catastrophes or market disruptions.

The insurance industry is less tangible in that the actual cost of its product isn't precisely known at the time of sale. The true cost is determined at a later point, often much later. Yet risk is taken on along with unpredictable, exogenous factors that ultimately determine profit or loss. While insurers gauge the probability of a large catastrophic event or some latent liability, these scenarios still cause a supply shock. A simplified explanation is that the insurance cycle is driven by supply and demand. If capacity is lacking, the price of risk transfer goes up.

Fiscal Fitness and AM Best

The Risk of Financial Impairment

The business of insurance, because of the inverted cycle in which revenues are received well before claims are incurred and must be paid (or even known), presents special concerns. There are a myriad of issues but the basic concern is assuring, to the extent reasonably possible, that insurance policy premiums and deposits received by an insurer today will be properly managed and available for payment of claims and other policy benefits (perhaps many years) in the future.

As a result, the insurance industry is subject to extensive regulation in the United States and in most other countries. In general, regulatory oversight focuses on three primary elements: market soundness, including rate regulation and promoting adequate insurance availability and healthy levels of competition; market conduct, including review of market participant practices to assure proper conduct and fairness in dealings with customers; and financial soundness, including ongoing surveillance of insurance entities' financial condition and a variety of possible regulatory actions that may be taken if there are indications of financial distress.

In the United States, these financial soundness regulatory actions may consist of required company action plans, various forms and levels of regulatory supervision and licensure actions. In certain instances these actions are insufficient and the next level of action involves conservation, rehabilitation and/or insolvent liquidation. Conservation is undertaken in certain cases for the purpose of obtaining control of the entity and conserving assets while a review of the situation is conducted. Rehabilitation is undertaken when it appears that special actions are required to maintain the entity's solvency, but with these actions, solvency appears possible. Insolvent liquidation is judged necessary when it is clear that the entity's assets will not be sufficient to discharge all of the entity's obligations.

According to earlier studies of impairments by AM Best, impairments varied by line of business, with workers' compensation insurers suffering the most impairments. Fraud has been a frequently identified cause, but most failures can be understood as general business failures associated with poor business strategy/execution and weak management.

State guaranty funds exist to cover unpaid claims of insolvent insurers, but these guaranty funds are generally limited in the coverage they provide to certain types of insurance and with thresholds of the amounts they can pay. There may also be considerable delays associated with payments by guaranty funds.

It therefore continues to be in the strong interest to policyholders to choose their insurance provider carefully and to monitor the provider's financial health throughout the policy period. AM Best has a strong role in this effort by providing interactive ratings evaluations on an ongoing basis.

The AM Best interactive rating process is voluntary and subjects companies to independent, objective evaluations of balance sheet strength, operating performance and other critical factors. Not surprisingly, impairments have occurred much more frequently with companies choosing not to subject themselves to this rigorous process.

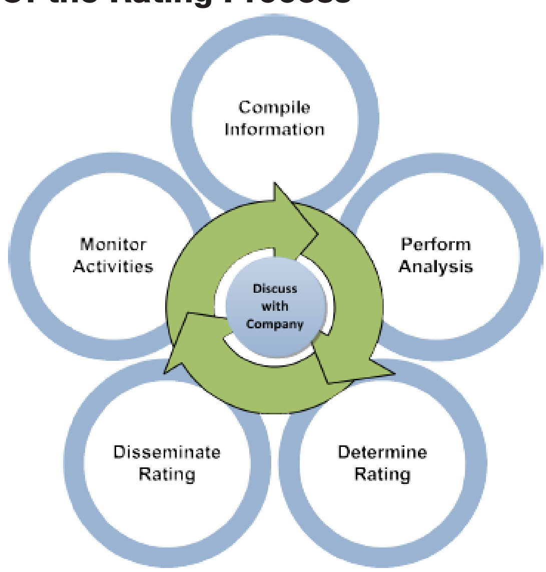
Overview: Best's Credit Rating Evaluation

The foundation of AM Best's credit rating process is an ongoing dialogue with the rated company's management, which is facilitated by a rating analyst. Each interactively rated entity is assigned to a rating analyst. The rating analyst manages the ongoing interaction with company management and conducts the fundamental credit analysis described in AM Best's rating criteria. The rating analyst monitors the financial and nonfinancial results and significant developments for each rated entity or issue in his/her portfolio. While ratings are generally updated on an annual basis, a rating review can take place any time AM Best becomes aware of a significant development that may have an impact on the rating.

The ongoing monitoring and dialogue with management occurs through scheduled rating meetings, as well as interim discussions on key trends and emerging issues as needed. These meetings afford the rating analyst the opportunity to review factors that may affect the company's rating(s), including its strategic goals, financial objectives, and management practices.

Best's Credit Ratings are initially determined and periodically updated through a defined rating committee process. The rating committee itself consists of analytical staff and is chaired by senior rating officers. The committee approach ensures rating consistency across different business segments and maintains the integrity of the rating process. The rating process consists of the following broad components pictured below:

Broad Components Of the Rating Process



Compile Information

To develop an initial BCR, or to update an existing BCR, the rating analyst may gather detailed public and proprietary financial information and use this information to develop a tailored meeting agenda for a rating meeting. A scheduled rating meeting with the company is a key source of additional quantitative and qualitative information, including the clarification of information previously received or obtained. Key executives are present to discuss their areas of responsibility, including strategy, distribution, underwriting, reserving, investments, claims, enterprise risk management and overall financial results and projections.

Long-Term ICR	FSR
aaa, aa+	A++
aa, aa-	A+
a+, a	A
a-	A-
bbb+, bbb	B++
bbb-	B+
bb+, bb	B
bb-	B-
b+, b	C++
b-	C+
ccc+, ccc	C
ccc-, cc	C-
c	D

ICR = Issuer Credit Rating
FSR = Financial Strength Rating

Note: D is used for non-insurers and securities.
The rating symbols A++, A+, A, A-, B++, B+ are registered certification marks of AM Best Rating Services, Inc.

Material Sources of Information

In arriving at a rating decision, AM Best relies primarily on information provided by the rated entity, although other sources of information may be used in the analysis. Typical information provided includes a company's annual and quarterly (if available) financial statements, presented in accordance with the customs or regulatory requirements of the country of domicile. Other information and documents that may be reviewed include, but are not limited to: interim management reports on emerging issues, regulatory filings, certified actuarial and loss reserve reports, investment guidelines, internal capital models, Own Risk and Solvency Assessment reports, annual business plans, Best's Supplemental Rating Questionnaire or other supplemental information requested by AM Best, information provided through scheduled rating meetings and other discussions with management, and information available in the public domain. Ultimately, if AM Best is unable to obtain the information deemed necessary to appropriately review and analyze the rated entity (before or after the initial rating release or subsequent rating update) or if the quality of the information is deemed unsatisfactory, AM Best reserves the right to take a rating action based on reasonable assumptions, withdraw any existing interactive rating, or cease the initiation of any new BCR.

Perform Analysis

The analytical process incorporates a host of quantitative and qualitative measures that evaluate potential risks to an organization's financial health, which can include underwriting, credit, interest rate, country, and market risks, as well as economic and regulatory factors. The analysis may include comparisons to peers, industry standards, and proprietary benchmarks, as well as the assessment of operating plans, philosophy, management, risk appetite, and the implicit or explicit support of a parent or affiliates.

Determine the Rating

All BCRs are initially determined and subsequently updated by a rating committee. The rating analyst prepares a rating recommendation for rating committee review and deliberation based on the analytical process outlined in Part III: The Rating

Process. Each rating recommendation is reviewed and modified, as appropriate, through a rigorous committee process that involves a rating analyst presenting information and findings to committee members. All rating recommendations are voted on and approved by committee. Rating committee members are all rating analysts who have the relevant skills and knowledge to develop the type of rating opinion being discussed. Rating opinions reflect a thorough analysis of all information known by AM Best and believed to be relevant to the rating process.

For BCRs intended to be made public, the rating committee determination is communicated to the entity (or its representatives) being rated before being publicly disseminated. Private BCRs are disseminated directly to the company following the conclusion of the rating committee.

Disseminate the Rating

The primary distribution method for the public dissemination of BCRs is the AMB website; in some cases, it may be republished by a press release. Notification of the rating committee determine to the requesting party serves as the dissemination of a private BCR.

Monitor Activities

Once an interactive BCR is disseminated publicly or privately, AM Best monitors and updates the rating by regularly analyzing the company's creditworthiness. Rating analysts monitor current entity-specific developments (e.g., financial statements, public documents, news events) and trending industry conditions to evaluate their potential impact on ratings. Significant developments can result in an interim rating evaluation, as well as modification of the rating or outlook.

AM Best's Insurance Information Products and Services

Insight and Advantage

AM Best provides dozens of insurance information resources that help everyone from C-level executives to independent agents work more effectively and productively. The resources provide unique insight—based on more than a century of exclusive focus on the insurance industry—that delivers a competitive advantage to those who need to know the why as well as the what, for tomorrow as well as today.

Below are some of AM Best's most widely used and highly regarded products and services. For more information, visit www.ambest.com/sales.

Best's Insurance Reports® provides in-depth reports on insurers, reinsurers and groups in the United States, Canada and around the world. Each report offers

AM Best's in-depth evaluation of insurers' balance sheet strength, operating performance, business profile and enterprise risk management.

Best's Financial Suite offers quality, detailed data, insurer ratings and analytical tools for top-tier research. Take advantage of our unique perspective to get a complete picture of the insurance industry. Available data includes:

- Global
- U.S.
- Solvency II
- Canada

Best's Capital Adequacy Model – P/C, U.S. and Universal provide access to the capital model used by AM Best to assess the capital adequacy of insurers, capturing the combined impact of financial risks associated with adverse market conditions.

Best's Aggregates & Averages lets you benchmark insurance company performance against industry aggregates, and observe industry trends.

BEST'S FINANCIAL STRENGTH RATING GUIDE – (FSR)

A Best's Financial Strength Rating (FSR) is an independent opinion of an insurer's financial strength and ability to meet its ongoing insurance policy and contract obligations. An FSR is not assigned to specific insurance policies or contracts and does not address any other risk, including, but not limited to, an insurer's claims-payment policies or procedures; the ability of the insurer to dispute or deny claims payment on grounds of misrepresentation or fraud; or any specific liability contractually borne by the policy or contract holder. An FSR is not a recommendation to purchase, hold or terminate any insurance policy, contract or any other financial obligation issued by an insurer, nor does it address the suitability of any particular policy or contract for a specific purpose or purchaser. In addition, an FSR may be displayed with a rating identifier, modifier or affiliation code that denotes a unique aspect of the opinion.

Best's Financial Strength Rating (FSR) Scale

Rating Categories	Rating Symbols	Rating Notches*	Category Definitions
Superior	A+	A++	Assigned to insurance companies that have, in our opinion, a superior ability to meet their ongoing insurance obligations.
Excellent	A	A-	Assigned to insurance companies that have, in our opinion, an excellent ability to meet their ongoing insurance obligations.
Good	B+	B++	Assigned to insurance companies that have, in our opinion, a good ability to meet their ongoing insurance obligations.
Fair	B	B-	Assigned to insurance companies that have, in our opinion, a fair ability to meet their ongoing insurance obligations. Financial strength is vulnerable to adverse changes in underwriting and economic conditions.
Marginal	C+	C++	Assigned to insurance companies that have, in our opinion, a marginal ability to meet their ongoing insurance obligations. Financial strength is vulnerable to adverse changes in underwriting and economic conditions.
Weak	C	C-	Assigned to insurance companies that have, in our opinion, a weak ability to meet their ongoing insurance obligations. Financial strength is very vulnerable to adverse changes in underwriting and economic conditions.
Poor	D	-	Assigned to insurance companies that have, in our opinion, a poor ability to meet their ongoing insurance obligations. Financial strength is extremely vulnerable to adverse changes in underwriting and economic conditions.

* Each Best's Financial Strength Rating Category from "A+" to "C" includes a Rating Notch to reflect a gradation of financial strength within the category. A Rating Notch is expressed with either a second plus "+" or a minus "-".

Financial Strength Non-Rating Designations

Designation Symbols	Designation Definitions
E	Status assigned to insurers that are publicly placed, via court order into conservation or rehabilitation, or the international equivalent, or in the absence of a court order, clear regulatory action has been taken to delay or otherwise limit policyholder payments.
F	Status assigned to insurers that are publicly placed via court order into liquidation after a finding of insolvency, or the international equivalent.
S	Status assigned to rated insurance companies to suspend the outstanding FSR when sudden and significant events impact operations and rating implications cannot be evaluated due to a lack of timely or adequate information; or in cases where continued maintenance of the previously published rating opinion is in violation of evolving regulatory requirements.
NR	Status assigned to insurance companies that are not rated; may include previously rated insurance companies or insurance companies that have never been rated by AM Best.

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BEST'S ISSUER CREDIT RATING GUIDE – (ICR)

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Best's Long-Term Issuer Credit Rating (ICR) Scale

Rating Categories	Rating Symbols	Rating Notches*	Category Definitions
Exceptional	aaa	-	Assigned to entities that have, in our opinion, an exceptional ability to meet their ongoing senior financial obligations.
Superior	aa	aa+ / aa-	Assigned to entities that have, in our opinion, a superior ability to meet their ongoing senior financial obligations.
Excellent	a	a+ / a-	Assigned to entities that have, in our opinion, an excellent ability to meet their ongoing senior financial obligations.
Good	bbb	bbb+ / bbb-	Assigned to entities that have, in our opinion, a good ability to meet their ongoing senior financial obligations.
Fair	bb	bb+ / bb-	Assigned to entities that have, in our opinion, a fair ability to meet their ongoing senior financial obligations. Credit quality is vulnerable to adverse changes in industry and economic conditions.
Marginal	b	b+ / b-	Assigned to entities that have, in our opinion, a marginal ability to meet their ongoing senior financial obligations. Credit quality is vulnerable to adverse changes in industry and economic conditions.
Weak	ccc	ccc+ / ccc-	Assigned to entities that have, in our opinion, a weak ability to meet their ongoing senior financial obligations. Credit quality is vulnerable to adverse changes in industry and economic conditions.
Very Weak	cc	-	Assigned to entities that have, in our opinion, a very weak ability to meet their ongoing senior financial obligations. Credit quality is very vulnerable to adverse changes in industry and economic conditions.
Poor	c	-	Assigned to entities that have, in our opinion, a poor ability to meet their ongoing senior financial obligations. Credit quality is extremely vulnerable to adverse changes in industry and economic conditions.

** Best's Long-Term Issuer Credit Rating Categories from "aa" to "ccc" include Rating Notches to reflect a gradation within the category to indicate whether credit quality is near the top or bottom of a particular Rating Category. Rating Notches are expressed with a "+" (plus) or "-" (minus).*

Best's Short-Term Issuer Credit Rating (ICR) Scale

Rating Categories	Rating Symbols	Category Definitions
Strongest	AMB-1+	Assigned to entities that have, in our opinion, the strongest ability to repay their short-term financial obligations.
Outstanding	AMB-1	Assigned to entities that have, in our opinion, an outstanding ability to repay their short-term financial obligations.
Satisfactory	AMB-2	Assigned to entities that have, in our opinion, a satisfactory ability to repay their short-term financial obligations.
Adequate	AMB-3	Assigned to entities that have, in our opinion, an adequate ability to repay their short-term financial obligations; however, adverse industry or economic conditions likely will reduce their capacity to meet their financial commitments.
Questionable	AMB-4	Assigned to entities that have, in our opinion, questionable credit quality and are vulnerable to adverse economic or other external changes, which could have a marked impact on their ability to meet their financial commitments.

Long- and Short-Term Issuer Credit Non-Rating Designations

Designation Symbols	Designation Definitions
d	Status assigned to entities (excluding insurers) that are in default or when a bankruptcy petition or similar action has been filed and made public.
e	Status assigned to insurers that are publicly placed, via court order into conservation or rehabilitation, or the international equivalent, or in the absence of a court order, clear regulatory action has been taken to delay or otherwise limit policyholder payments.
f	Status assigned to insurers that are publicly placed via court order into liquidation after a finding of insolvency, or the international equivalent.
s	Status assigned to rated entities to suspend the outstanding ICR when sudden and significant events impact operations and rating implications cannot be evaluated due to a lack of timely or adequate information; or in cases where continued maintenance of the previously published rating opinion is in violation of evolving regulatory requirements.
nr	Status assigned to entities that are not rated; may include previously rated entities or entities that have never been rated by AM Best.

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Argo's Rickert: 'Smart Cities' Will Change the Nature of Risk

Thom Rickert, emerging risk specialist, Argo Group's Trident Public Risk Solutions, said greater reliance on technology and networking will help cities operate better and become more efficient, but will introduce data and privacy risks. Rickert spoke with AMBestTV at the Risk and Insurance Management Society's annual conference in Boston.

What are smart cities?

Smart cities are cities that have decided that in order to better serve their communities, they are integrating the cyber-physical infrastructure that they have, combining it with data, and using that to better serve the community and make it more resilient and more sustainable.

Which components of the city are getting caught up in this?

It really goes across the board. It is, first, building a back bone of integrated communication technology, whether it's 5G or fiber optics, small cells.

Those things are being developed first because those are what will link the Internet of things, the sensors that will be put on light poles to detect pollution, the things that will bring together and start gathering the data and bringing it over to a data analytics center where they will be able to then look at things, do predictive maintenance, help life safety by saying, "Here are where things are most likely to happen."

It's a combination of that cyber physical, and then looking at the places where it may be deployed, whether it's their transportation plan, their energy utilities, or water utilities, different aspects of the city where they can put it to use.

Can you say what cities are successful doing this now?

There's quite a few that have. The U.S. government put out a challenge, a smart city challenge, one of the first that was out there, that along with government grants there were individual philanthropical associations that put in money. Columbus, Ohio, is one of the first winners. Arlington, Texas, Austin, Portland, Oregon, there's cities large and small that are taking the steps in this.

Even small water utility, like Elsmore, California, there's a lot of public

Thom Rickert

entities that are taking advantage of either grants, funding, public-private partnerships in order to start deploying certain elements of smart city technology.

How are they impacting the insurance industry?

It really goes across board, from both risk management and insurance. What we're seeing is that as these technologies are deployed, some of the loss drivers will change, significantly cyber insurance and data protection, making sure that people's identities are protected.

When those systems may be attacked and that information is released, then there has to be some kind of risk transfer that's involved to protect both the governments and private entities. In addition to that, it's going to also change the loss pictures.

For example, if you have smart meters installed, where workers no longer have to go out and do a manual read of the meters, then the exposure to auto accidents, dog bites, tripping and falling, those things are eliminated. It brings down those workers' compensation costs.

Would it include things like e-scooters and e-bicycles?

Absolutely, because those types of micro-mobility solutions are part of a city's overall transportation mobility plan. That includes things like ride-sharing, public transit, e-scooters, e-bikes.

— By Meg Green

Fighting Myopia

Joyce Trimuel, chief diversity officer, CNA Insurance, said diverse perspectives generate better outcomes. She spoke with AMBestTV at the Emerging Leaders Conference in Miami.

How does culture affect innovation?

When you think about it, statistically it's been proven that companies with diverse perspectives and diverse ideas generate better outcomes and better results. One of the things that I believe is critically important for the diversity inclusion space is that it's not just diversity of thought, but you need diversity of talent, you need diversity that includes age, gender, sexual orientation, disabilities because again, you're going to get perspectives that otherwise you wouldn't necessarily get if the room is very myopic.

That's why I think about the insurance industry and the work that we're doing in the D&I space really is not just about having the numbers in terms of X number of women or perhaps from an ethnicity standpoint. It's about the full dimension of diversity just because again, you're just going to get better ideas that you would not necessarily get if the room is all the same experiences and same thought process.

Do you have any extra considerations or challenges that when you work with people who are

considering this industry that it may either be a plus or a minus?

One thing that I've found with our industry is that sometimes, it's kind of a well-kept secret, good, bad and indifferent. Sometimes, I know for myself and some colleagues, it wasn't as if we had necessarily intentionally pursued a career in insurance. A lot of us just through different experiences landed.

I definitely think from a talent standpoint, there is a war on talent just given the fact that we are an aging workforce as an industry and we're competing with so many other industries, so many other companies that perhaps have more brand recognition.

It's incumbent upon the insurance industry to be much more intentional about telling the story because you can have a very robust career. There's so much to do within our industry that sometimes people may not necessarily think about. For example if you are a psych major, why does that preclude you from doing something within the claims organization or within human resources? How can we attract, and then once we get the folks in the door, what are we doing to develop them so that they can really get the full experience of our industry? It's just such an amazing opportunity for individuals in terms of your career can go in a lot of different directions, but people have to know about the opportunities within the industry.

What are you seeing in terms of your own experience at bringing people up who probably are those emerging leaders?

I believe this conference is a great example of that because here you have close to 100 rising professionals within our industry who are given the opportunity for professional development. I'll use myself as an example. I started as an intern in the industry. The fact that I've had people to advocate and to mentor and to coach me along the way, that's been pivotal just in terms of having a 20-plus-year career doing a lot of different things. I really would say it's a two-step approach. We have to attract the individuals, but once we get them in the door, providing them with opportunities like this conference. I think it's going to be life-changing for these folks that are coming this week. Then, it's what do we do once they get back to their respective offices? What's going to be that call to action so that we continue to cultivate and motivate and engage them in different ways?

—Lee McDonald

Joyce Trimuel

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