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A.M. BEST'S MONTHLY INSURANCE MAGAZINE

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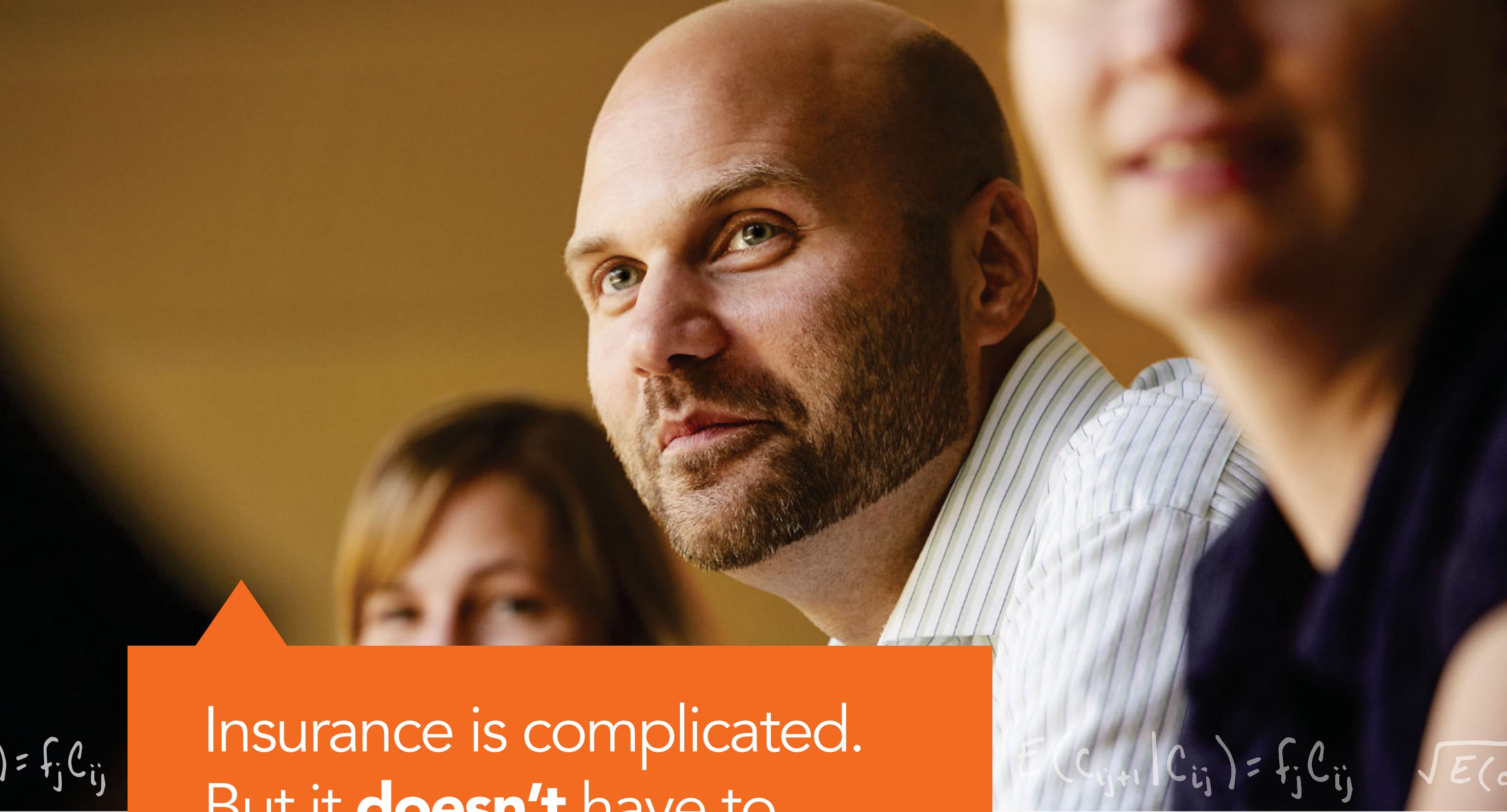
A.M. BEST'S MONTHLY INSURANCE MAGAZINE

PUSHING BACK

Insurers seek to reduce claims by funding an anti-bullying app that allows anonymous reporting. **Page 32**


$E(C_{i,j+1} | C_{ij}) = f_j C_{ij}$
$Var(f_j) = \sigma_j^2 / \sum_i C_{ij}$

From the **Editor's Desk**

The Power Imbalance

Bullies seek to take advantage of a power imbalance. Insurers are helping to pay to implement an anti-bullying app that gives students and school staff the ability to push back.

Bullying cases too often make the news these days, raising concerns about school environment, accountability and how best to protect children.

As many as 28% of U.S. students in grades 6-12 experience bullying, according to *stopbullying.gov.* A far greater number of students and school staff are witnesses of bullying behavior.

Insurers are beginning to play a role in giving students and school staff a way of stepping up and pushing back against the behavior. Some insurers, for instance, are paying for an anti-bullying app to be implemented in schools and municipalities as a risk management tool.

A key element of the definition of bullying is a power imbalance that enables the abusive behavior.

Initiatives such as the STOPit app, which allows users to report incidents anonymously, help equalize that power imbalance by providing a simple way to bring the problem to the attention of authorities.

In "Pushing Back," *Best's Review* examines some anti-bullying efforts and insurance industry involvement in apps like STOPit.

In this month's special reinsurance section, *Best's Review* focuses on developments in mortgage reinsurance, cyber reinsurance and life reinsurance.

In "Backstopping the Mortgage Market," we examine the reinsurance industry's growing interest in mortgage reinsurance. Dozens of reinsurers have taken advantage of new opportunities to assume mortgage credit risk. Prior to the global financial crisis of 2007-2009, reinsurers had minimal involvement in the mortgage industry.

"Opening the Cyber Door" looks at the proliferation of ransomware and other types of cyberattacks and how insurers are using reinsurance to manage their exposure. "Appetite for Longevity" focuses on developments in the life reinsurance market and opportunities in longevity products.

The captive insurance industry gathers later this month for the Vermont Captive Insurance Association conference, with 1,100 people expected for the event.

August is Captive Insurance Awareness Month. A.M. Best's news outlets will cover the annual Vermont conference. This event has become a magnet for national and global risk professionals.

Our August issue examines some of the issues involving captive insurance. "Captive Developments" looks at the impact on captives of an evolving regulatory environment and the complications presented by a young but growing cannabis industry. Guidance on the federal terrorism backstop is also a focus.

The August issue also features an interview with Maurice "Hank" Greenberg, the chairman and CEO of Starr Companies. In "Just the Beginning," A.M. BestTV spoke with Greenberg about the organization and its history as it prepares to celebrate its centennial anniversary next year.

Patricia Vowinkel
Executive Editor
patricia.vowinkel@ambest.com

The Question:

What parts of insurance are most vulnerable to disruption and why?

Email your answer to *bestreviewcomment@ambest.com*.

Reader responses will be published in a future issue.

Contents

REINSURANCE

FEATURES


From
talking
to
delivering

Contents

FEATURES

Cover design by Angel Negrón


We believe every customer deserves person-to-person support.
That's why, when you call PHLY, you'll speak with a real person. A professional with answers to your questions about coverage, paying a bill, making a claim, binding a proposal, even how to use the chat feature on our website. Along with quality coverage and claims service, how we interact with you is one of the many things that set us apart.
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A.M. BestWebinars

Webinars in Focus

State of the Captive Insurance Market

A panel of A.M. Best analysts and industry leaders reviews the issues shaping the captive insurance market, including financial results and the business environment for captives, RRGs and related organizations. A.M. Best highlights its annual captive report. (July 30, 2018)

Cyber: The Next Frontier In Personal Lines Insurance

Once a product for commercial lines, cyber insurance is emerging as the next frontier for personal lines coverages. A panel of insurance and security experts discusses how cyberthreats such as data theft, system compromise and social media risks are no longer exclusive to businesses; they happen to people, too. Sponsored by CyberScout. (July 19, 2018)

How Insurers Are Using Hyper-Accurate Location Data to Transform Underwriting

Insurance and data experts examine how insurers are leveraging location and data analytics to better understand property risks and exposures. The panel shares real-world examples of how using precise and accurate data can help identify and remedy inaccuracies that can significantly impact a company's bottom line. Sponsored by Pitney-Bowes. (June 19, 2018)

Managing Agents Effectively In a Data-Driven World

A look at ways that carriers are using data and analytics to drive profitable production and create stronger relationships with their agents. Sponsored by Optymyze. (May 10, 2018)

How to Know Your Customer In This Post-Breach Environment

Insurance companies needing to take steps to properly identify their customers is not new. But following large-scale breaches over the past year where Social Security numbers and other sensitive personal information was exposed, how can a company still be sure that someone is who they say they are? A panel of industry leaders discusses KYC practices as they relate directly to the insurance industry. Sponsored by Neustar. (May 10, 2018)

State of the Medical Professional Liability Market

A.M. Best senior analytic personnel and insurance industry leaders review the state of the U.S. medical professional liability insurance sector. The discussion follows the publication of A.M. Best's annual special report on the state of the medical professional liability market. (May 8, 2018)

Find A.M. Best webinars at
http://www.ambest.com/conferences/webinars.asp

Coming Soon

Cyber Intruders Target The Insurance Legal Community

New forms of cyber exposure, including new types of fraud, disruption and cyber spoofing threaten the relationships of insurers and outside legal counsel. Topics: How firms and cyber experts are responding to the growing range of risks; which strategies seem most popular among cyber intruders; and how insurers are developing new information-sharing strategies.

Thursday, Aug. 2, 2 p.m. EDT

For details or to register for webinars, go to
http://www.ambest.com/conferences/webinars.asp

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Department

A.M. BestTV

A.M. Best's Silverman: Solvency II Reporting Sheds Additional Light on Insurers

Anthony Silverman, associate director of analytics, A.M. Best, explains how Solvency II financial reporting reveals additional details about insurers' solvency capital, nonlife risk margins and unit-linked reserving practices. (June 25, 2018)

A.M. Best Analysts: Cyber Coverage Is a Tale of Two Markets

Fred Eslami, associate director, and Bobby Skrabal, industry analyst, A.M. Best, said take-up rates, prices and expectations for cyber coverage differ between large and medium-to-small organizations. Insurers are still developing pricing and coverage strategies, they said in reviewing a new special report. (June 22, 2018)

Insurance Adjusters Say a Big Challenge Is Finding Their Own Replacements

Attendees to the annual conference of the National Association of Independent Insurance Adjusters said the sector must emphasize recruiting and internships in order to attract new talent. (June 18, 2018)

Investment Managers: Slowly Rising Rates Should Help Captives' Portfolios

Investment and captive experts said captive insurers will benefit from rising interest rates, but not if the rates rise too quickly and depress bond yields and raise collateral requirements. The managers spoke with A.M. BestTV at the Bermuda Captive Conference, held in Southampton, Bermuda. (June 13, 2018)

NAIC's Gann: Insurers Should Follow Investment and Credit Loss Issues

Julie Gann, senior manager, National Association of Insurance Commissioners, said the working group that covers statutory account principles is handling two issues important to insurers: investment classification and expected credit loss standards. Gann spoke with A.M. BestTV at the 2018 Insurance Accounting and Systems Association (IASA) conference in Nashville. (June 6, 2018)

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A.M. BestRadio

NCIP's Poulton: FEMA's Move to Issue Cat Bond Is a Positive Step, Not a Solution

Broker Craig Poulton of Poulton Associates, administrator of the Natural Catastrophe Insurance Program, said U.S. flood risk would be better addressed by widening the availability of private flood coverage.

Author: What If NYC Flooded and Remained Flooded?

Author Jeff Goodell's new book, *The Water Will Come*, explores the idea of sea levels rising, and how that would affect major cities.

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The Insurance Information Source

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Captive World Heads to Vermont for Networking, Professional Development and Some Enjoyment

Aug. 1 – 4: 48th Annual LAAIA Convention, Latin American Association of Insurance Agencies, Hollywood, Fla.

Aug. 2 – 7: American Bar Association Annual Meeting, American Bar Association, Chicago.

Aug. 4 – 7: NAIC Summer National Meeting, National Association of Insurance Commissioners, Boston.

Aug. 5 – 8: ARIA Annual Meeting, American Risk and Insurance Association, Chicago.

Aug. 6 – 8: Advanced Sales Forum—Inspire, Uncover, Succeed, LIMRA, Chicago.

Aug. 6 – 8: Supplemental Health, DI & LTC Conference, LIMRA, LOMA, and the Society of Actuaries, San Diego.

Aug. 6 – 9: DMEC Annual Convention, Disability Management Employer Coalition, Austin, Texas.

Aug. 7 – 9: VCIA Annual Conference, Vermont Captive Insurance Association, Burlington, Vt. BestTV

Aug. 8 – 10: Social Recruiting Strategies Conference, Global Strategic Management Institute (GSMI), Austin, Texas.

Aug. 10 – 11: ACOPA Actuarial Symposium, American Society of Pension Professionals & Actuaries (ASPPA), Chicago.

Aug. 13 – 15: Governance, Risk and Control (GRC) Conference, ISACA and IIA, Nashville, Tenn.

Aug. 13 – 15: Leadership Development Workshop, National Association of Mutual Insurance Companies, Chicago. (Updates July listing.)

Aug. 19 – 22: WCI Conference, Workers' Compensation Institute, Orlando, Fla.

Aug. 20 – 22: NCCIA Annual Conference, North Carolina Captive Insurance Association, Charlotte, N.C.

Aug. 22 – 26: Big "I" Fall Leadership Conference, Independent Insurance Agents & Brokers of America, Springfield, Mass.

Sept. 4 – 5: Risk Forum Australasia, Risk and Insurance Management Society (RIMS), Sydney, Australia.

Sept. 5 – 7: AFA Annual Meeting, American Fraternal Alliance, Minneapolis, Minn.

Sept. 5 – 7: Casualty Loss Reserve Seminar and Workshops, Casualty Actuarial Society, Anaheim, Calif.

Sept. 5 – 7: LOMA Annual Conference & Conferment, LOMA, Vancouver, British Columbia.

Sept. 6 – 7: Re Underwriting: Facing Forward—A Look at the Future of Reinsurance Underwriting, Reinsurance Association of America, New York.

Sept. 8 – 13: Les Rendez-Vous de Septembre, Monte Carlo, Monaco. BestTV

Sept. 11 – 13: LIMRA Group and Worksite Benefits Conference, LIMRA, Uncasville, Conn.

Sept. 11 – 13: SCCIA 19th Annual Executive Educational Conference, South Carolina Captive Insurance Association, Charleston, S.C.

Sept. 13 – 16: NAIFA Performance + Purpose Annual Conference, National Association of Insurance and Financial Advisors, San Antonio, Texas.

For a full list of conferences and events, visit *www.ambest.com/conferences/index.html*

Attending Exhibiting Speaking Sponsoring BestTV Video

August: Captive Insurance Awareness Month

A.M. Best's news outlets will cover the annual Vermont Captive Insurance Association conference, held each August. This event has become a magnet for national and global risk professionals and is a window into the ever-evolving nature of captive insurance. This issue of *Best's Review* presents stories about captives beginning on page 23.

Former Lloyd's CEO Joins International Broker Ardonagh

Richard Ward, former chief executive officer of Lloyd's, was appointed executive chairman of specialty and international and managing general agents for broker Ardonagh Group.

Subject to approval by the U.K. Financial Conduct Authority, Ward will join the group on Sept. 10.

Ardonagh's specialty and international segment is comprised of Bishopsgate and Price Forbes, previously known collectively as the wholesale segment, with the MGA segment encompassing all of Ardonagh's MGA activities.

Ward's position is a newly created one. Ward was CEO of Lloyd's from 2006 to 2013. In 2014, he was appointed chairman of Brit Insurance. Ward chaired Brit through its initial public offering and subsequent sale to Fairfax Financial Service Group "and will be stepping down from Brit in September," Ardonagh said.

In June 2014, Ward was appointed executive chairman of Cunningham Lindsey, a global provider of claims management and risk service solutions. Ward also was nonexecutive director of Partnership Assurance Group plc between 2013 and 2016. He is also on the board of Direct Line Group plc as a nonexecutive director and senior independent director, having joined in January 2016. He is a member of the PRA Practitioner Panel, an independent statutory panel that represents the interests of practitioners regulated by the Bank of England, Ardonagh said.

Richard Ward

Ward's "presence across the MGA and specialty and international segments can only add substantially to our ability to both create and capitalize on future growth opportunities," David Ross, Ardonagh's CEO, said in a statement.

"Spending time with the Ardonagh team has given me the chance to really understand the unique position the group holds in the industry, having built an unrivalled stable of a market leading brands and businesses," Ward said in a statement.

—David Pilla

Distribution

• **Grahame Chilton** will be stepping down later this year as chief executive officer of **Arthur J. Gallagher & Co.**'s U.K.-based brokerage and underwriting division to devote his attention to Capsicum Re.

Subject to regulatory approval, **Simon Matson**, currently head of Gallagher's London market and Alesco businesses, will be appointed Chilton's successor as U.K. brokerage and underwriting CEO.

Grahame Chilton

Chilton will leave his current position before the end of the year, likely in the fourth quarter. Chilton established and built London reinsurance broker Benfield Group Ltd. before its acquisition by Aon and was named CEO of the U.K.-based international brokerage division of AJG in 2015. Capsicum Re is a joint venture broker that Chilton and AJG set up in 2013 to provide specialized reinsurance broking.

Matson is founder and currently CEO of Alesco Risk Management Services. His career began in 1989 in the oil and gas division of a global insurance broker. In 2008, he left as head of upstream energy broking to found Alesco.

• Reinsurance broker **Guy Carpenter & Co. LLC** has appointed former Goldman Sachs executive **Shiv Kumar** as president and global leader of securities, capital markets, a newly created position.

Kumar has 23 years of experience in insurance/reinsurance and capital markets. Previously, he was global head of insurance structured finance at Goldman, Sachs & Co., where he covered property/casualty, life and health, mortgage and public sector insurers.

Earlier, Kumar was head of analytical services at AIR Worldwide.

Life/Health

• **Berkshire Hathaway Inc.**, **Amazon** and **JPMorgan Chase & Co.** have appointed the chief executive officer of their independent health care company for employees.

Atul Gawande will lead a new, independent entity free from profit-making incentives and constraints, the companies said in a joint statement.

Gawande practices general and endocrine surgery at Brigham and Women's Hospital in Boston and is a professor at the Harvard T.H. Chan School of Public Health and Harvard Medical School. He is founding executive director of Ariadne Labs, a health systems innovation center.

• **Brighthouse Financial Inc.** has appointed **Conor Murphy** as executive vice president and chief operating officer. He succeeds **Peter Carlson**, who will serve as a special adviser to the company's chief executive officer until his retirement at year end.

Murphy joined Brighthouse Financial last year as executive vice president and chief product and strategy officer. He continues to lead client solutions and strategy groups and will also oversee finance and operations.

Previously, he was MetLife's Latin America regional chief financial officer. Earlier, he was MetLife CFO for Europe, the Middle East and Africa and investments. He also held leadership positions in international strategic planning organization and investor relations.

• **The American Council of Life Insurers** has appointed **Susan Neely**, one of the architects of the U.S. Department of Homeland Security, its new president and chief executive officer.

Susan Neely

Current president and CEO, **Dirk Kempthorne**, said he plans to step down after eight years. Neely succeeds him this summer.

Neely has served as president and CEO of the American Beverage Association for the past 13 years. Before joining ABA, she was assistant secretary for public affairs for the DHS from 2003 to 2005 and special assistant to President George W. Bush from 2001 to 2002. Under Bush, she was one of the architects of the DHS.

• **Molina Healthcare Inc.** appointed **Thomas L. Tran** chief financial officer and treasurer.

Thomas L. Tran

Tran succeeds **Joseph W. White**, who announced his retirement from the company.

He has more than 35 years of experience in health care, including six years as CFO of WellCare Health Plans Inc.

Most recently, Tran was CFO for Sentry Data Systems. He also held leadership roles at CareGuide; Uniprise, a principal operating division of UnitedHealth Group; ConnectiCare; Blue Cross & Blue Shield of Massachusetts and Cigna.

White's career included more than 30 years of financial management experience in the health care industry. He has held several positions since he started with Molina in 2003, including CFO, treasurer, interim CEO and chief accounting officer.

Property/Casualty

• **Farmers Group Inc.** has appointed **Keith Daly** as personal lines president. He succeeds **Roy Smith**, who is no longer with the company.

Daly was most recently chief claims officer. He joined Farmers in 2009 when it acquired 21st Century Insurance, where he was vice president of field claims operations. Daly was in sales early in his career and moved to the insurance industry in 1993 as a claims representative trainee at Progressive.

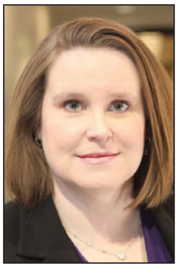
• **Hanover Insurance Group Inc**. has appointed former Zurich executive **Frank M. Baron** as president of a new domestic specialty group unit.

Frank M. Baron

Baron will lead specialty programs, excess and surplus and specialty brokerage businesses in the alternative markets unit.

Previously, he was an executive vice president at Zurich, in charge of the management solutions group. Earlier in his 30-year career, he held leadership positions at American International Group and Reliance National Insurance.

• **Nautilus Insurance Group** has appointed **Allison Kenworthy** as senior vice president and chief financial officer.



Allison Kenworthy

Previously, she was a vice president and statutory controller for a global company.

Earlier in the quarter, Nautilus appointed **Thomas Joyce** as senior vice president and chief underwriting officer. He joined the company in 2015 and previously was chief claims officer. **Joel Lasky**, claims vice president, succeeded him as chief claims officer.

Nautilus is a W.R. Berkley excess-and-surplus writer.

• **CNA** has appointed **Jennifer Livingstone** senior vice president and chief marketing officer.

Livingstone joins CNA after 25 years in the insurance industry, in both underwriting and sales roles. She spent the majority of her career at American International Group Inc., where she held the roles of senior vice president, head of broker relations and channel management for the past seven years.

Since 2016, Livingstone has served as vice president of global sales development at Cyence, where she was responsible for sales, marketing, and business development for Cyence's platform, which manages cyberrisk.

• **AmTrust Financial Services Inc.** has named **J. Daniel Hickey** group chief underwriting officer.

Hickey joined AmTrust in July 2017 as executive vice president, business strategy and business development. In his new role, Hickey will oversee the company's global underwriting activities.

Prior to joining AmTrust, Hickey was the executive vice president and head of the standard lines business unit at PartnerRe. Prior to PartnerRe, he was at General Reinsurance Corp. BR

Targeted Approach

ADDRESSABLE TV is on the rise.

Today, addressable TV is seen in more than 40% of U.S. households, according to Video Advertising Bureau's *Say Yes to Addressability: A Guide to Precise TV Targeting* report. By 2020, household penetration could rise to 74% of TV homes.

The advertising approach is based on audience and demographic targeting rather than specific networks or programs. Targeting includes purchase history, behavioral data and subscriber demographics. Advertisers deliver different ads to different audiences regardless of the programs they're watching.

Addressable TV ad spend is expected to top $2.2 billion this year—a 443% climb between 2015 and 2018 from $890 million in 2016, according to the report.

Sixty percent of advertiser respondents in the report said they're using addressable TV or plan to run addressable ads within the next year. More than 70% of advertisers are willing to pay higher cost-per-thousand impressions, relative to linear TV, for the precision of addressable TV's targeting across live and on-demand TV, according to the report.

Cable and satellite operators have fostered the addressable TV movement by improving their ability to deliver addressable ads. About 50 million set-top boxes are now enabled for addressable campaigns, according to reports.

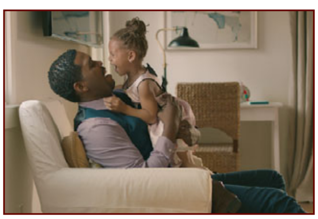
Addressable TV allows marketers to reach more specific audiences with deeper insights and improved creative flexibility. However, some advertisers are skeptical about switching from traditional ad buys to personalized advertising.

Today, more than 74 million households have the requisite technology needed to be targeted on a one-to-one level, according to reports.

Focus on the Family

Private life insurer **SECURIAN FINANCIAL** has launched a new brand identity and its first national advertising campaign focused on the "family investor." The idea came about after months of research to better understand the mindsets of customers who prioritize their time, money and emotional energy in family.

The campaign includes a new brand promise, identity system and logo. The company selected green as its brand color because it stands out from the predominantly blue "sea of sameness" in the financial services industry, said Ann McGarry, vice president of enterprise marketing and branding at Securian Financial. "Green also represents growth, tranquility and, quite frankly, money," she said.



Securian Financial is running ads nationally on "Good Morning America" and a number of cable channels. It's also running the ads in heavier rotations in four local markets: Chicago, Denver, Houston and Minneapolis-St. Paul.

The new brand will allow distributors to spend less time explaining who the company is and more time educating customers about its financial services solutions.

Name Game

BB&T INSURANCE HOLDINGS INC. has rebranded its insurance services retail broker with a new name from an affiliate company.

BB&T Insurance Services began doing business on June 25 as McGriff Insurance Services. It's named after McGriff, Seibels & Williams, which provides property/casualty insurance; employee benefits; life and pension plans; financial services and surety products; and specialty insurance programs.

BB&T Insurance Services of California and BridgeTrust Title are not included in the initial rebranding and will continue to operate under their current names.

Part of the rebrand includes a new logo, comprised of a new blue color palette, fonts and design elements.

The McGriff name dates back to 1886, said David Pruett, vice chairman and chief executive officer at McGriff Insurance. "We're excited to build on the brand equity and long-standing recognition associated with this industry leader while remaining committed to the outstanding client service we have provided for years," he said.

Lori Chordas is a senior associate editor. She can be reached at *lori.chordas@ambest.com.*

Department

A Global Conversation

Captive Comments

Insurance industry experts discuss the latest hot topics and challenges in the captive insurance market with A.M. BestTV.

"I think actually there are two challenges [in the captive market.] The first one is an internal view, which is getting staff. It's increasingly difficult to get the right staff in the locations you need them. The locations are becoming very expensive, so to get the right people is expensive.

The other one is the old story of regulation. Regulation is continuing to increase. In Bermuda, we've recently seen increasing regulation, code of conduct, all the right things to do, but in many countries, it's a new regulation from the point of view BEPS, base erosion profit shifting. The Organization for Economic Co-operation and Development is very, very serious about that.

Actually for domiciles, it shouldn't be seen as an inhibitor. It should be seen as a good thing where everybody can work on the same, level playing ground."

Paul Owens
CEO, Global Captive Practice
Willis Towers Watson

"In a world where we see so much uncertainty, a captive can provide a lot more certainty to organizations.

In the smaller captives, we're seeing growth there from organizations that never had a captive. They're starting to hear about this captive concept and thinking that they should explore it. We're seeing growth across all industries and in all sizes.

[Some of the new risks that are going to captives include]—big growth in companies that are into cyberrisk and parts of cyber, whether that be deductibles or retentions or writing higher limits or quoted shares. We also saw an increased number of companies writing some from employee benefit risk.

What's driving that is as medical costs continue to rise around the globe, it's difficult for organizations to try and control that. One method of trying to achieve that level of control is through using a captive to reinsure those medical costs."

Ellen Charnley
President
Marsh Captive Solutions

"It's extremely important in a rising interest rate environment for an investment adviser who manages money for captives to have a fund that is a core-plus strategy that uses floating-rate securities and that uses different methods to gain that return that's hard to get in a low interest rate environment now.

A fund manager that uses floating-rate securities, that uses shorter-duration bonds would be something that would be more suitable for a captive investment."

David Seidner
Regional Sales Director
Monte Capital Group

"The continuing soft market really does make it more difficult [for new captives to form,} when you start to do the math on the return on investment. That's part of it. The tax rate also is a little bit of a detriment for traditional risk management captives. At 35%, the loss reserve deduction is worth a certain amount. At 21% it's worth less.

For U.S. companies, that's been a little bit of a challenge. On the European side, Solvency II continues to be a tough barrier. If you're going to form a captive now, it's more capital intensive, more regulatory, more governance. Those things are a bit of a barrier to new growth.

On the whole, there's still a lot of interest. There's still a lot of inquiries, there's still greater education, more interest in the marketplace. It's still been solid. We're still in a very good place, but it's just been a little slower than in the past."

Bob Gagliardi
Director of Captive Management and Head of U.S. Fronting
American International Group

"Some captives have jumped on the bandwagon of passive investments using exchange-traded fund portfolios to capture their equity exposures, risk reward characteristics.

Unfortunately, with ETFs, you get 100% of the market's upside and 100% of the downside. Not a great place to be when you're expecting a market to go down.

What they should be doing I think is diversifying further, particularly away from any one market like the U.S. market, considering developed country exposure, or maybe even emerging market exposure, just diversifying the portfolio to protect them.

Now for actively-managed portfolios, which are probably most captive portfolios, we're hearing a lot of inquiries about defensive strategies. There's an interest in covered, call-writing programs.

There is an interest in structured, or quantitative product that is specifically designed to capture maybe 80% or 90% of the market's upside but only suffer 60% to 40% of the market's downside. That's becoming very popular.

People want at least to carve out a portion of that portfolio and position it defensively. We'll never get a call right before the market dives, so better to be prepared ahead."

Carl Terzer
Founder and Principal
CapVisor Associates

Visit *ambest.tv* to watch the complete videos with these executives. BR

Department

Next Wave

A Better Experience

Insurtech firms are attempting to serve customers in ways they want to be served. Traditional carriers need to use their insurance expertise to outdo insurtechs in customer experience.

An agent I follow on social media wrote recently that customers don't want an "insurance expert." They want someone who understands the work they do. They want to know that their agent can talk about the work they're doing in their shop and who will look at home, not uncomfortable, when they visit.

Of course, the unwritten part of his post is that they still need an insurance expert. Agents must know coverage issues and policy language like the back of their hands. Good agents will be insurance experts who can synthesize the policy information in a way that his or her customers understand and appreciate because the agent understands and appreciates the work that his or her customers do.

Carly Burnham

I would argue that **traditional carriers need to use the expertise they have in insurance to sprint ahead** of insurtech firms in the customer experience arena.

This is how you create a strong customer experience and strengthen your relationships. Those of us who work for carriers would do well to adopt this mindset, as well.

If you're an underwriter, how well do you understand what the agents you serve are dealing with on a day-to-day basis? Understanding your appetite, your products, and your options for pricing are basic musts to do your job.

The ability to share this information in a way that helps your agents sell to more customers is what will make you outstanding.

To do this, you need to get closer to both your agents and your carrier's customers. You need to imagine a day in the life and think about how the products you have can meaningfully impact them.

If you're in claims, you must understand the policy coverage and language and apply it consistently. But if you want to give an outstanding experience that will reinforce the promise the carrier you represent made, be comfortable with your customers, understand the impact that your processes and handling have on them and their operations.

From a broader perspective, carriers are starting to be impacted by the customer experiences that insurtech firms are creating. These firms have come in with a Silicon Valley mindset and have spent a lot of money on user experience design. They are thinking about how a customer will feel when they interact with their website. They are considering how policy language could be made more customer friendly, and attempting to serve customers in the ways that they want to be served.

Traditional carriers are taking steps in this direction, and it is heartening to see some of the new products they are creating. I would argue that traditional carriers need to use the expertise they have in insurance to sprint ahead of insurtech firms in the customer-experience arena.

We should be developing services that improve our customers' lives and make them a reality. Adding them as features of doing business with us. We should use all the historical data we have to help customers improve their outcomes. And, as we do this, improve our employees' experiences to allow them to become those outstanding insurance experts who understand and can relate to their customers and employees in other functions.

Our history and long-standing knowledge is being challenged by newcomers who have an advantage over us in regards to modern customer-experience design. We already know our customers, and now, we must adapt to the current marketplace and compete by deepening and bettering our relationships through modern processes. We are working toward this, and I look forward to seeing what we build. BR

Carly Burnham, CPCU, MBA, has been in the insurance industry since 2004. She blogs at *InsNerds.com* and can be reached at *bestreviewcomment@ambest.com*.

Spotlight on Flood Insurance

UK Reinsurer Flood Re Offers Vision of Its Own Demise

by Robert O'Connor

Emphasizing its goal of seeing affordable flood insurance made available for all U.K. homeowners by the time of its own planned demise in 2039, residential mutual flood reinsurer Flood Re Ltd. has recommended a dozen intermediate steps, ranging from defining affordability to promoting closer cooperation between government and the insurance sector.

In the report, *Flood Re, Our Vision: Preparing for a future of affordable flood insurance*, the reinsurer also argued for the need to accept that a small number of residential risk will never be seen as affordable.

"To tackle this, policymakers will need to decide whether some form of support continues beyond 2039," Flood Re said in the report, which is the second plan in Flood Re's transition.

Flood Re, which is supported by policyholder premiums and a levy on participating insurers, is scheduled to go out of business in 2039, to be replaced by a free market. The transition process is to be subject to periodic review.

According to Flood Re, 5.3 million homes in the United Kingdom are at risk of flooding. The typical cost of repairing a flood-hit home, Flood Re said, ranges from £20,000 (US$26,514.30) to £45,000.

Flood Re, which has been in business since April 4, 2016, operates on a not-for-profit basis to provide subsidized reinsurance cover to homes in flood-prone areas. The legislation creating Flood Re was enacted in 2014.

Over the next 21 years, Flood Re said, work should be done "to reduce the number of properties" that might need to be subsidized against flood risk.

"'Our Vision' is an important milestone for Flood Re achieving a successful transition," Andy Bord, chief executive of Flood Re, said in a statement. "By 2039, when the scheme [ends], the market needs to have risk-reflective pricing and at this point we also want to ensure that both premiums and excesses [deductibles] remain affordable for the majority of households at risk of flooding."

Flood Re said it has been encouraged by the response to its call for increased spending on flood protection. BR

> "'Our Vision' is an important milestone for Flood Re achieving a successful transition."
>
> **Andy Bord**
> Flood Re

Robert O'Connor is London editor. He can be reached at *robert.oconnor@ambest.com.*

Regulatory Update

Workers' Comp: California Insurance Commissioner Dave Jones has ordered licensed workers' compensation insurers in his state to report their federal income corporate tax savings for the next three years.

The order comes in reaction to Congress' passage of the Tax Cuts and Jobs Act that cut the corporate tax rate from 35% to 21% effective Jan. 1, 2018. The first filing is due Dec. 31, and the order requires additional annual filings through Dec. 31, 2020.

The California Department of Insurance's announcement said insurers must provide detailed information about how the federal tax savings impact their rates. Also, the insurer must provide a detailed explanation if they determined there is no rate impact and must show why the federal tax cut had no rate impact.

The order was met by opposition from the Property Casualty Insurers Association of America, which said the order is another example of regulators overstepping their boundaries. PCI said average workers' comp rates for 2017 are 10% below the 2016 rates and 17% below the 2015 rates. "Insurers are passing along savings to their customers in California's competitive market," PCI Vice President Mark Sektnan said.

Life Insurance: Pennsylvania Gov. Tom Wolf has signed legislation requiring insurers selling life insurance or annuities in the commonwealth to participate in the National Association of Insurance Commissioners' National Life Insurance Policy Locator program, Spotlight on Lloyd's

Lloyd's New Digital Structure Aims to Improve Market Access

by Robert O'Connor

"It will enable coverholders in different parts of the world to benefit from easier access to Lloyd's expertise, underwriting talent, significant capacity and financial security."

Bruce Carnegie-Brown
Lloyd's

Lloyd's has created a digital structure aimed at speeding both communications and transactions within the market.

Lloyd's said the pilot program, known as Lloyd's Bridge, will match insurance businesses with Lloyd's underwriters and allow these businesses to function in some cases as Lloyd's coverholders.

Lloyd's Bridge will be available first in the United Kingdom, New Zealand and Australia, before being expanded more widely in 2019. The system will eventually operate globally, Lloyd's said.

In a statement, Lloyd's said the new platform will support its strong commitment to broker-based business, "with brokers having access to the platform if they act as a coverholder or are acting on behalf of a coverholder."

Lloyd's Chairman Bruce Carnegie-Brown said Lloyd's Bridge will meet the desire of clients globally for improved market access.

"Lloyd's Bridge offers the ideal platform to do this quickly, easily and efficiently," Carnegie-Brown said in a statement. "It will enable coverholders in different parts of the world to benefit from easier access to Lloyd's expertise, underwriting talent, significant capacity and financial security."

Lloyd's Bridge, Lloyd's said, is part of a number of technology-based initiatives designed to improve service, efficiency and underwriting capability.

Lloyd's pointed to its requirement, brought in this year, that 80% of business be placed electronically by the end of 2019. Lloyd's also cited the planned launch in September 2018 of the Lloyd's Lab, which will concentrate on using technology to promote advances in the Lloyd's market.

And Lloyd's said it intends to release details of its planned "new underwriting portal that will enable coverholders to quote, underwrite risks and issue policies on behalf of Lloyd's syndicates."

Vincent Vandendael, Lloyd's chief commercial officer, said about 30% of Lloyd's premiums are placed by coverholders, which he described as local insurance businesses "writing policies on behalf of Lloyd's."

Lloyd's, Vandendael said, is determined to strengthen the role of coverholders. BR

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Regulatory Update (Continued)

which helps beneficiaries receive benefits from life insurance policies that may have been lost.

Insurance Commissioner Jessica Altman said the legislation puts all insurers with life policies or annuities in Pennsylvania into the NAIC program.

Currently, participation is voluntary, but the Pennsylvania Insurance Department said the NAIC program already has recovered more than $9.61 million for nearly 1,092 state residents.

The new law specifies any insurer selling life insurance policies or annuities in Pennsylvania must provide the insurance department with an email address to which the department can send requests to search for policies. Such requests can be made either by a member of the decedent's family who has received a copy of the decedent's death certificate, or a personal representative of the decedent's estate.

Captives: North Carolina will exempt all U.S. captive insurers chartered outside of the state from paying state taxes on premiums earned, thanks to a new law.

The provision is part of Senate Bill 99, a budget bill that became law after lawmakers overrode Gov. Roy Cooper's veto.

It prohibits the Department of Revenue from taxing premiums earned by an out-of-state chartered or licensed captive doing business and insuring risks in North Carolina, according to Lane Brown, North Carolina Captive Insurance Association's vice president for governmental affairs.

Spotlight on Health Care Market

Allied World VP: Huge Verdicts Create Stir in Health Care Market

by Meg Green

Adam Bates, vice president, Allied World, said several recent awards and settlements have ranged from $30 million to $50 million, sending shock waves through the hospital and health care liability sector. Bates spoke with A.M. BestTV at the Bermuda Captive Conference, held in Southampton, Bermuda.

Following is an edited transcript of the interview.

How is consolidation in the health care market impacting the insurance industry?

A number of years ago when the physicians became employed and they integrated the health systems, we saw the physician carriers really enter the hospital space, creating an excess of supply.

As the hospital systems have merged over the years, you saw entire insurance towers disappear, and thus the insurers were competing for market space. Again, I think it really created somewhat of an imbalance in the supply demand equation, where the supply was larger than the demand. I think that's exacerbated the soft market.

What are you seeing in terms of claims today?

I think we're seeing new thresholds reached, particularly in some awards in what we might think of as the more severe venues. Certainly in Cook County, we're seeing $50 million verdicts in some neurologically impaired infant cases.

Even the other day, we saw one university publicly had settled a claim, a similar bad baby case for $30 million-$40 million.

What kind of pressure does that put on the marketplace?

It's a real challenging environment, but it's one of the areas where Bermuda has an opportunity to excel, because our clients have been coming down here for years. We have a real longevity relationship.

Although some of these conversations can be difficult as we talk about increasing retentions or increasing premium, that relationship really helps us navigate that collaboratively. BR

> "I think we're seeing new thresholds reached, particularly in some awards in what we might think of as the more severe venues."
>
> **Adam Bates**
> Allied World

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The tax exemptions are for premium taxes, corporate income taxes, franchise taxes, privilege taxes and insurance regulatory charges imposed by the state Department of Insurance.

The new law stands in contrast to laws in states such as Tennessee, which imposes a procurement tax on captives chartered outside their domicile, but insure risks for companies doing business in Tennessee, Brown said.

Surplus Lines: Rhode Island Gov. Gina Raimondo has vetoed surplus lines legislation lengthening the deadline in which surplus lines producers can pay bills that are due to their brokers.

H 7909 mandated bills from agents to surplus lines brokers would be due no less than 45 days from the end of the month in which the transaction occurs. Existing law allows for the cancellation of a policy within 10 days of a notice of non-payment to a surplus lines broker, according to the veto message.

But Raimondo's veto message said while the bill was written to help local insurance agents and consumers, it needs additional work. "I have heard from insurance brokers, carriers and some local agents that the time frame allowed in this legislation might be too long," she wrote.

Raimondo said she is committed to working with the General Assembly in the next session "to achieve the intended goals of the legislation in a better format while protecting against unintended consequences."

At Large

Targeted Questions

What to ask to determine how much artificial intelligence could help your firm.

By
William H. Panning

Don't be too confident that your firm's data is error-free.

Your CEO has asked you and other managers to meet with a respected consulting firm to discuss whether they could apply new tools, based on artificial intelligence (AI), to your firm's data, and so increase profits. What questions should you and your colleagues ask to evaluate their proposal? Here are a few recommended ones, each followed by the reason for asking.

How much data would this require? AI software defeated the world champion of the board game Go, discovered how to play and win numerous video games, and learned to distinguish between pictures of different animals. But in each case, it learned from playing or viewing millions of games and pictures. By contrast, a firm's customer data is typically limited to its current and past clients.

How accurate must the data be to produce useful results? In large projects for various clients, my colleagues and I were always told that the data had been thoroughly scrubbed. In reality, we found incredible amounts of missing or incorrect data. At one firm we found that thousands of customers apparently resided at regional offices. Why? Because if addresses were missing, clerks substituted the address of the insurer's closest regional office. (Implication: Don't be too confident that your firm's data is error-free.)

How do you prevent overfitting? This consists of finding results that are statistically significant (i.e., unlikely to occur by chance) but meaningless in reality. If your data set has 100 variables, there will be nearly 5,000 pairwise correlations among these variables. One percent of them, roughly 50, will be "statistically significant at the 1% level" even if the data is purely random. If, using real data, a researcher finds, say, 80 relationships that are statistically significant at that level, roughly 50 of them are likely to be meaningless. But which ones? How does one distinguish between the 30 or so "real" correlations and the 50 or so "meaningless" ones? The usual method is to use one half of the relevant data to discover statistically significant relationships among variables, and then test those results by seeing which of these many relationships also occur in the other half of the data. Relationships found in both halves are more likely to be real than accidental. But there are no guarantees that this is so.

Can AI tools significantly improve underwriting decisions, where the results are not known immediately but emerge over time and can vary considerably among otherwise similar clients or properties? The AI successes mentioned earlier occurred in activities where the software is given immediate feedback: Did it defeat its Go opponent, win the video game, or successfully identify a picture as that of a cat rather than a dog? AI methods that rely on feedback are called supervised learning. For problems where immediate feedback is not possible, AI uses unsupervised learning methods, which are far more difficult. The results are less clear, and require creative interpretation as well as science.

Can AI analysis identify potentially profitable business that our firm is failing to attract? Don't bother to ask. Absent data from other firms, the answer is no.

AI tools can be useful, but are sometimes overly hyped. These questions, and their answers, may help you establish realistic expectations of how and to what extent AI-based tools might benefit your firm. BR

Best's Review columnist **William H. Panning**, principal of ERMetrics, LLC, can be reached at *bill@ERMetrics.com*.

Risk Adviser

Lessons Learned

The damage caused by Hurricane Maria to Puerto Rico can help build a bridge to resilience.

By
Paul Horgan

> The insurance industry has a key role to play in seeking sustainable solutions for infrastructure investment.

Nearly a year after hurricanes Irma and Maria tore through Puerto Rico, the island still struggles to recover from the storms. The number of lives lost and the amount of property damaged place these storms among the most severe weather events in U.S. history.

Puerto Rico's infrastructure was already in need of repair before Hurricane Maria arrived packing sustained winds in excess of 150 mph. Roads, bridges, water systems and other critical infrastructure were severely damaged. The entire island lost all electrical power, slowing the recovery.

In April 2018, Zurich convened a multidisciplinary group in Puerto Rico to evaluate how best to rebuild the infrastructure there and to discuss ideas for making infrastructure improvements across the rest of the United States. We went to Puerto Rico because the situation there provided a clear example of what is happening across the country—insufficient investment has led to deteriorating roads, bridges, canals, levees and other key infrastructure elements.

The lack of investment in U.S. infrastructure not only impacts the quality of life for individuals, it has a major economic impact on businesses. The American Society of Civil Engineers estimates that by 2020 "aging and unreliable" infrastructure will cost American businesses $1.2 trillion.

Few would argue against the need for greater investment in America's infrastructure. However, many are now beginning to acknowledge the need for upfront investment to build resilient power systems, bridges, roads and water systems that can withstand the increasing frequency and severity of the weather we face.

Immediately following a disaster, there is rarely time to think beyond recovery. We should spend time—and money—now to make sure the lights will stay on when the next disaster strikes.

Studies indicate that every dollar spent on more resilient construction of homes and commercial buildings following a storm will save four dollars in disaster response. Similar investment returns could be realized through improvements in infrastructure.

As a society, we need to provide incentives to rebuild to more resilient standards, or our infrastructure and our buildings will continue to suffer the same fates when the next big storm comes along.

The insurance industry has a key role to play in seeking sustainable solutions for infrastructure investment. We won't be able to truly improve the infrastructure in the United States unless we encourage collaboration between all stakeholders and continue the conversation on investment. Those conversations need to include: government policy changes and incentives for front-end investment; increasing use of private investment, including more use of public-private partnerships (P3s); insurance claims that cover sustainable rebuilding; and, of course, changes related to publicly funding proactive resilience strategies.

All of these approaches to front-end sustainable investment can attract private investors who are looking for greater certainty of return on their investments.

It is not enough to understand the dynamics behind what is needed to address these shortcomings. We need to find real solutions and take action. BR

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Regulatory/Law

A Direct Answer

U.S. Circuit Court of Appeals sides with insurers in looking to 'plain language' to define causation language in cyber coverage case.

By

Alan Rutkin

Enforcing 'plain language' is, once again, the approach that generally supports insurers.

Cyber coverage cases, like other areas of law, are starting to evolve around a few recurring issues. One of the issues is causation. When does a loss result from computers *directly*? A prominent court, the 11th U.S. Circuit Court of Appeals, recently weighed in on this issue, and it sided with the insurance industry. If you're working in this area, you might spend a few minutes considering this case, *Interactive Communications International v. Great American Insurance Co.*

The policyholder sold "chits" (credits loaded onto prepaid debit cards) that could be redeemed by a consumer to make everyday purchases. Thieves found a glitch in the policyholder system that allowed them to redeem a single chit many times. They stole $11.4 million. The policyholder made a claim under its computer fraud policy.

The policy covered "loss of, and loss from damage to, money, securities and other property resulting directly from the use of any computer to fraudulently cause a transfer…."

The issue quickly became: What does "directly" mean? And both policyholder and insurer were able to cite supporting cases, because two different approaches have evolved on this issue.

Policyholder argued for a "proximate cause" approach. Under this view, if the use of the computer set in motion a chain of events that caused the loss, then the computer caused the loss directly.

Insurer argued for a literal approach. To result directly, there must be immediacy between conduct and result.

The 11th Circuit adopted a methodology that insurers often endorse: "We look to the plain language of InComm's policy. It is a fundamental principle of Georgia law—and law more generally—that words in contracts 'generally bear their usual and common signification.'" To that end, the court turned to dictionaries, and found that their theme is unmistakable: "one thing results 'directly' from another if it follows straightaway, immediately, and without any intervention or interruption."

The 11th Circuit then broke down the steps of the theft here. The court found that theft would begin with a computer transaction, creating a duplicate chit. But to complete the theft, three more steps were required: a redemption call, a debit card purchase and a financial transfer. Days, weeks, or months could pass between the first step and the final step, and the loss required that final step. The court found that this sequence lacked the immediacy to be considered as caused directly from the computer fraud.

Several lessons can be drawn.

First, "resulting *directly*" has become a recurring important issue in this area. Since there remain many different forms in this area, it is useful to see common themes evolving.

Second, while I support the insurers' approach, fairness requires me to acknowledge that courts have gone both ways on this issue. But the *Interactive* decision here represents significant added support for the insurance industry's approach.

Third, enforcing "plain language" is, once again, the approach that generally supports insurers.

Finally and more personally, computer-related fraud and theft has become a scary part of our daily lives. BR

Best's Review columnist **Alan Rutkin** is a partner at Rivkin Radler in Uniondale, N.Y. He can be reached at *alan.rutkin@rivkin.com*.

CAPTIVE DEVELOPMENTS

New legal and regulatory developments related to cannabis and the federal terrorism backstop are creating potential opportunities for captive insurers.

by Lori Chordas

Lori Chordas is a senior associate editor. She can be reached at *lori.chordas@ambest.com.*

As the cannabis industry gains legitimacy at the state level, it is experiencing challenges in its efforts to line up adequate insurance coverage. That is creating the potential for opportunities for captive insurers.

In a separate sector, clarification that stand-alone cyber liability policies are included under the Terrorism Risk Insurance Act means captives now have more incentive to write cyberterrorism.

Key Points

By the Numbers: The number of captive insurance companies has more than doubled since 2001.

Risk and Reward: Companies are eyeing captives solutions for newer risks such as cyberterrorism and cannabis.

Now Is the Time: The limited availability of coverage in the commercial market for those risks is creating an opportunity for captives.

The Cannabis Question

Recreational marijuana sales became legal in California on Jan. 1, 2018. While still illegal at the federal level, developments such as these are beginning to turn the cannabis industry into a legitimate business.

That is spurring demand for insurance coverages, which are still typically not offered by the traditional insurance market.

With coverage in the traditional insurance market so limited, businesses have had to explore the surplus lines market for coverage. It also has raised questions about the possible use of captive insurers.

"Along with supplementing or replacing commercial insurance, captives can, at the very least, be an effective tool in the risk management toolbox for cannabis entities seeking alternative ways to finance the emerging risks they face," said Greg Fanoe, a consulting actuary at actuarial consulting services firm Merlinos & Associates.

California was the first in the nation to legalize marijuana for medical use in 1996. Currently, 30 states have legalized use of medical marijuana. Nine states and the District of Columbia have legalized the recreational use of cannabis.

In 2017, legal marijuana sales in North America climbed 33% to $9.7 billion and they're expected to top $47 billion over the next decade, according to cannabis research firm ArcView.

Californians in November passed Proposition 64, which allowed for the sale and taxation of recreational marijuana, effective Jan. 1, 2018.

Because the drug is still illegal at the federal level, however, many insurance brokers and banks have shied away from the industry.

Businesses and insurance industry representatives testified about the limited availability of cannabis business insurance at a public hearing in October held by California Insurance Commissioner Dave Jones, according to a *BestWire* report.

The California Department of Insurance said some insurance for the cannabis industry had only been available via surplus lines carriers. Golden Bear Insurance Co. became California's first admitted commercial cannabis insurer in early November after Jones approved the company's filing.

Some of the coverages the cannabis industry needs include coverage for crops, product liability and stock throughput, according to Camille Dixon, director of cannabis insurance policy for the California Department of Insurance, speaking at the Captive Insurance Companies Association's International Conference in Scottsdale, Arizona in March.

> "I would say the biggest need right now is outdoor crop insurance."
> **Camille Dixon**
> California Department of Insurance

"I would say the biggest need right now is outdoor crop insurance," she said.

Businesses involved with the cannabis industry include growers, distributors, retail dispensaries and others. Other coverages they could need include general liability, professional liability, commercial auto, workers' compensation and property.

Businesses looking to obtain and maintain a license in Washington state, for instance, are required to have product liability and commercial general liability coverages with minimum limits of $1 million, according to reports.

"Also, we've seen some carriers point to exclusions in policies or raise other arguments to deny coverage based on the fact that the policyholder was involved in cannabis operations, even when the carrier in at least one case knew its insured was a cannabis business when it issued the policy," said Joseph Holahan, of counsel at Morris, Manning and Martin LLP in Washington, D.C.

When coverage is hard to find in the traditional market, captives can be one of the possible alternatives.

With good management and underwriting,

While the risk of prosecution may be low, a captive that accepts premiums from cannabis businesses is likely violating federal law.

Joseph Holahan
Morris, Manning and Martin LLP

captives have the opportunity to serve unmet needs in this market, said Holahan, whose experience includes assisting insurers with company formation and licensing, including the formation of captive insurers.

"We're seeing more and more interest in forming captives to supplement commercial carriers' policies and cover risks that might not otherwise be covered or only covered at a high cost," he said.

State regulators are beginning to entertain proposals to form captives that would write cannabis risks, Holahan said.

Captive insurers can offer better pricing and broader coverage than the traditional market.

"And captives have more flexibility than traditional and excess and surplus lines insurers to design programs, and they don't have to file rates or forms," Merlinos & Associates' Fanoe said.

"One of the biggest complaints we hear in this market is that available coverage comes with many exclusions, especially liability policies," he said.

That said, there are some significant hurdles, given that cannabis is still illegal under federal law.

"It can be difficult to find a good domicile for your captive, along with fronting carriers and legal partners to work with your captive," Fanoe said.

While the risk of prosecution may be low, a captive that accepts premiums from cannabis businesses is likely violating federal law, Holahan said.

California's Dixon said the state is encouraging insurers to provide coverage.

"A lot of the insurance being written now is on the surplus side," she said, speaking at the CICA conference. "We do have two admitted carriers. We have the first admitted carrier in the nation in California last year. We hope to continue to approve more carriers to write on the admitted side. The surplus market right now is definitely filling the gaps."

A bipartisan bill that would give states autonomy over their marijuana policy could help to resolve some of the current challenges facing the cannabis industry. The Strengthening the Tenth Amendment Through Entrusting States (STATES) Act, cosponsored by Sen. Elizabeth Warren and Sen. Cory Gardner, would protect businesses in states with legalized marijuana from federal government interference and prosecution from the Department of Justice, according to published reports.

Cyberterrorism and Captives

In late 2016, the U.S. Treasury Department issued guidance that clarifies that stand-alone cyber liability insurance policies are included under the Terrorism Risk Insurance Act.

"That guidance now clarifies the scope of coverage for cyberattacks under TRIA and makes it very clear that captives can be used to write property and casualty-related cyberrisks," said Wendy Peters, executive vice president and global head of terrorism and financial solutions at Willis Towers Watson.

Currently, the federal reinsurance quota share stands at 82%, leaving insurers to either retain the remaining 18% quota share or reinsure it, Peters said.

Michael Serricchio, managing director, Marsh Captive Solutions, agreed.

"That opens up a huge opportunity for all industries with their captives to insure cyberterrorism," said Serricchio, speaking at the Captive Insurance Companies Association's International Conference in March.

"If it was certified as a cyberterrorist attack, the captive would have this year 82% backstop versus being self-insured for that loss if they didn't have it in their captive," he said.

Last year the number of Marsh-managed captives writing terrorism coverage backed by the Terrorism Risk Insurance Program

"That guidance now clarifies the scope of coverage for cyberattacks under TRIA and makes it very clear that captives can be used to write property and casualty-related cyberrisks."

Wendy Peters
Willis Towers Watson

Reauthorization Act of 2015 climbed 17% to 166 captives, Serricchio said.

TRIPRA, which was signed into law by former-President Barack Obama on Jan. 12, 2015, extends the federal backstop program through 2020.

Terrorism acts must meet certain criteria to be designated under TRIA language. The U.S. government will provide reinsurance for losses that exceed the program trigger.

This year, captives are fully responsible for terrorism losses below $160 million. The trigger is set to increase $20 million annually until 2020, when it will reach $200 million.

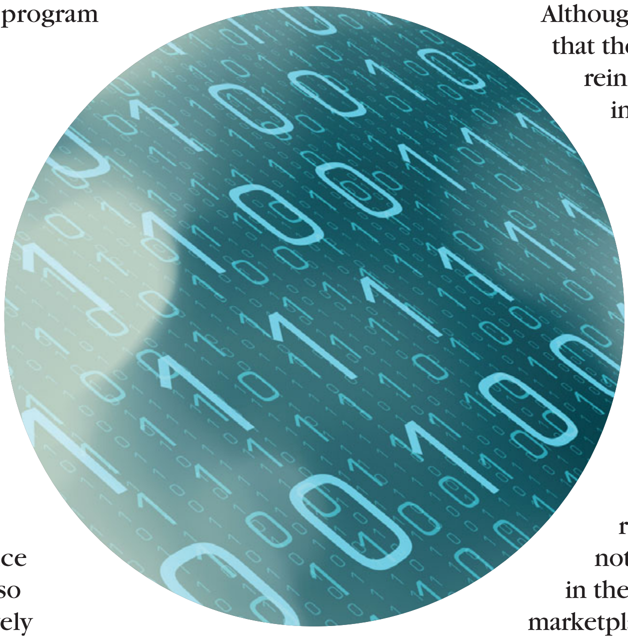
There are numerous reasons why captives may be a viable means to insure against cyberterrorism.

Not only do captives reduce a company's reliance on third parties, they're also a cost-effective and relatively easy way to reduce and finance net retained risk, especially for companies that already own a captive, Serricchio said.

Additionally, the flexibility of captives helps them respond faster than traditional insurers in accommodating market dynamics and new risks such as cyber and other emerging risks.

"We're now seeing more captives taking meaningful retentions and building a tower of insurance excess of their retention," said Anup Seth, managing director with Aon.

He said the advantages of doing that include the ability to control the overall insurance program including price, coverage and capacity to optimize the total cost of risk associated with cyber exposures.



There are some situations when a captive solution may be the only viable option, such as to secure significant limits for nuclear, biological, chemical or radiological attacks.

Although TRIPRA guidance states that the federal backstop provides reinsurance protection to insurers that experience NBCR losses, insurers are not required to offer the coverage, according to Marsh's *2018 Terrorism Risk Insurance Report*.

That makes the concept of a captive writing the risk all the more beneficial, Serricchio said.

"The lack of a TRIPRA mandate for NBCR has resulted in coverage not being widely available in the traditional insurance marketplace. Captive insurers are able to offer this coverage and gain access to reinsurance protection afforded by TRIPRA," according to the Marsh report. BR

A.M. BestTV

Go to *bestreview.com* to watch interviews with Camille Dixon and Michael Serricchio.

Reacting to Rates

Experts: Slow increase in interest rates likely to help captives' portfolios.

by Meg Green

After a decade of low interest rates, the Federal Reserve raised rates twice in the first six months of 2018 and indicated two more hikes could come by year-end.

In March, it raised rates 25 basis points to a range of 1.5% to 1.75%. A June increase—the seventh since the end of the Great Recession—lifted the benchmark range for federal funds another 25 basis points to between 1.75% and 2%, the highest it's been since the summer of 2008.

The timing of the Fed's second hike made interest rates a hot topic at the Bermuda Captive Conference in June. A.M. Best TV asked investment managers and captive experts how rising rates are affecting captives and how insurers should deal with the economic shift.

Weighing in were Bob Gagliardi, head of captive management and U.S. fronting for AIG; Mark Jennings, senior vice president at Wilmington Capital Securities LLC; Jack Meskunas, senior director at Oppenheimer & Co.; Jonathan Reiss, chief financial officer of Hamilton Insurance Group; Scott Reynolds, CEO of Member Insurance; and Carl Terzer, principal at CapVisor Associates.

Meg Green is a senior associate editor, A.M. BestTV. She can be reached at *meg.green@ambest.com.*

What are the pros and, if any, cons of rising interest rates?

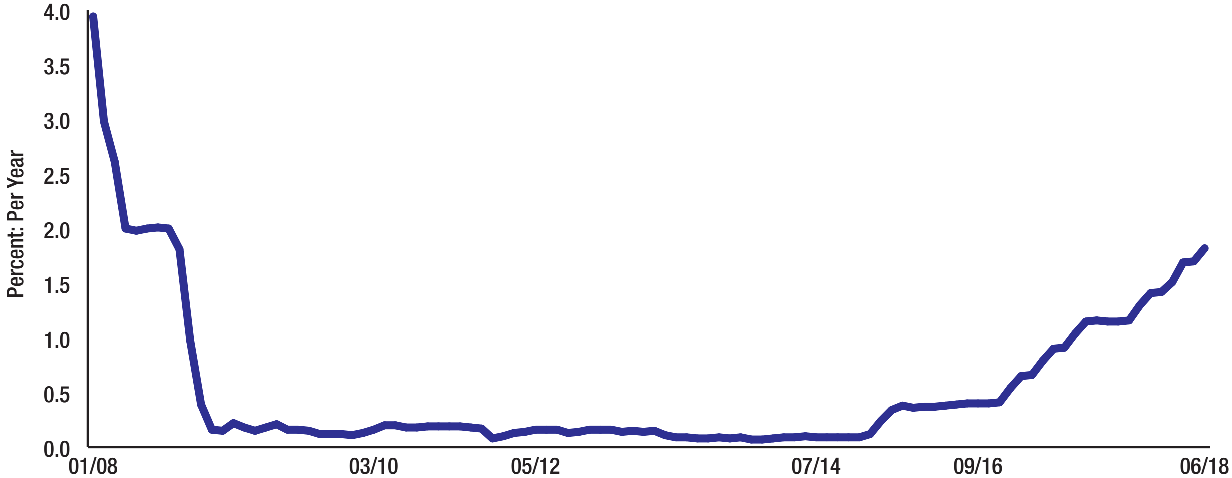
Scott Reynolds

Reynolds: Rising interest rates can create an opportunity for increased investment income, so from a captive perspective, the rising interest rates aren't necessarily a bad thing.

If they go up too fast and it drives bond yields down, or bond rates down, collateral requirements could go up quickly. You have to be careful that the rates don't go up too fast. Rising rates are good, but rising rates all of a sudden are not good.

Reiss: Companies that have large fixed-income portfolios may see a book value hit to their portfolios when interest rates rise. In the longer term, or the medium to long term, they're better off. Rising interest rates means better, higher yields. I think it's a net positive.

U.S. Federal Funds Rate



Source: Federal Reserve

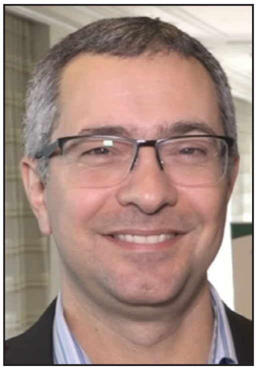
However, the caution is: How does the rising interest rate environment manifest itself in claims inflation? That's an area, depending on the lines of business you write, you have to be very careful about.

Jonathan Reiss

I would also just like to mention that it seems that our industry has had excess capital allocated to it, in part because of the depressed interest rate environment and investors looking for more yield in our industry. I generally think the rising interest rate environment will help alleviate that challenge as there are better yield opportunities elsewhere.

Has this already affected investments?

Gagliardi: For some captives that have a fair amount of assets, maybe collateral trust account, they see the rising interest rates driving the value of their investments down a bit. That's probably been a little bit of a negative for them. But for clients that have been in cash, or primarily in cash, now they see some return on that cash that they weren't seeing before.


Bob Gagliardi

I think on the whole, long term [the rate increase] is probably good for us. But in the short run, it has hurt the value of some clients' investments.

Meskunas: What this has done is impact the valuation of fixed-income portfolios. You can see it all across the spectrum, both on the short end, the intermediate end where the 10-year topped 3% recently, and to the long end as well. So this has caused a lot of captive owners to see declines in value of the portfolio.


Jack Meskunas

How should the captive industry be responding?

Meskunas: You need to be nimble and you need to have specific bond portfolios as separately managed accounts, as opposed to bond funds. Bond funds fare more poorly in a rising interest rate environment typically than individual bond portfolios because the asset manager always has the opportunity to just hold on to the bonds and let them mature. Therefore you won't suffer the type of losses that you get in a fund.

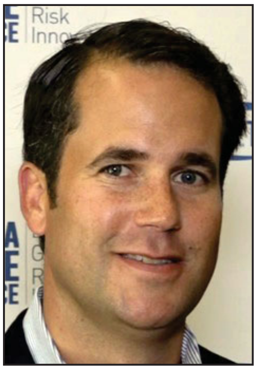
Terzer: Bond portfolios don't do well in a rising interest rate environment. As interest rates rise, the market value of the bond portfolios will decrease. You hopefully look to have your manager position the portfolio with a duration short of the benchmark, which will protect it at least vis-à-vis the benchmark, from a large market value hit to the portfolio.

What does this mean for the captive asset management space?

Terzer: With interest rates rising and that being the overall mindset of the Fed, captives are a little more in tune to what their bond managers are doing and they're a little more demanding of performance and overseeing performance more closely. Of course, we had so many years with very low returns, the dispersion in manager returns was very, very low. They're becoming more in tune now with finding managers who can outperform.


Carl Terzer

Jennings: I think insurance companies are responding by investing in floating rate securities, investing in preferred securities, or different asset classes that are diversifying their portfolio. They're not tied to fixed-rate securities while there's a rising interest rate market. BR


Mark Jennings

A.M. BestTV

Go to *bestreview.com* to watch the interview with investment managers at the Bermuda Captive Conference.

New Life

Reinsurers in Bermuda are finding new growth in old business.

by Meg Green

Bermuda-based life reinsurers are growing by taking on older business written by life companies during times of higher interest rates, and a segment of nonlife companies are growing by acquiring legacy business from property/casualty insurers. Those are two of the trends spotted by Anup Seth, managing director with Aon. A.M. BestTV spoke to Seth at the Bermuda Captive Conference in June.

What are you seeing in Bermuda as a domicile?

We're certainly seeing capital flowing into Bermuda as a domicile. That's very encouraging, whether it's capital coming into the insurance-linked securities industry, whether it's capital coming into the commercial reinsurance industry, both nonlife and life. We are seeing a trend when new life reinsurers are setting up in Bermuda. We're also seeing some new captives formed in Bermuda.

Anup Seth

What's going on with the new life reinsurers?

It's really driven by the low interest rate environment. Back in the early '90s when interest rates were much higher, these traditional life insurers provided a guarantee to policyholders. Those guarantees could have been 3%, 4%, sometimes even higher than that.

Now, when we are in the low interest rate environment, those guarantees are beginning to bite. These traditional life insurers are looking for solutions to help them meet those policyholder obligations.

These new life reinsurers are setting up in Bermuda and providing them with that interest rate relief or protection as well as protection for what we call the demographical biometric risks, whether that's mortality, lapse or morbidity. As a result, there's a lot of demand for these new type of reinsurance solutions on the life side, and that's what these companies are focused on in Bermuda. We are calling them the asset-intensive life reinsurers in Bermuda.

How has the property/casualty industry fared after last year's record natural catastrophe year?

We had expected that the overall P/C market may have firmed post the cat losses. The industry suffered cat losses of close to $100 billion. What we did see, though, is a lot of new capital flowing into the industry. There's still that abundance of capital, so the supply side was very, very strong. Demand was relatively stable.

As a result, pricing did not increase. Generally pricing was flat, except for what I would probably call the property retro market. There we did see some firming. What we're seeing as a trend, though, in the nonlife side is given the rates haven't hardened, these companies are looking at their own strategies and saying, "What is core to our business, and what is noncore?"

Anything that is noncore, they're looking to pass on to a new industry that is flourishing, which we're calling the legacy industry. This legacy P/C industry is now formulating here in Bermuda for the same reasons I mentioned earlier.

These companies are taking off these businesses, whether it's in the form of a loss portfolio transfer, a novation, or simply buying these run-off blocks of businesses, and are focused on that side.

Are those "legacy industry" companies startups or existing companies?

Most of them are startups, actually. It started a few years ago with a company called Enstar that focused in this legacy space. Enstar is well-established. Others have been here for maybe anywhere between five and 10 years, but we've also seen a few startup companies come up now with a focus on legacy nonlife business. It's, I guess, a combination of the two. BR

Meg Green is a senior associate editor. She can be reached at *meg.green@ambest.com*.

A.M. BestTV

Go to *bestreview.com* to watch the interview with Anup Seth.

A Slight Shift

A *Best's Special Report* explains why European insurers are adjusting their asset allocations.

by Yvette Essen

European insurers and reinsurers have benefited from investment gains as they have increased their holdings in equities over recent years, although inevitably their exposure to market risk has risen.

Thomas Bateman, financial analyst, A.M. Best, said examination of 500 Northern and Western European insurers' assets showed a slight shift from fixed-income assets toward higher returns. Many maintain relatively strong levels of capitalization, he said.

Bateman discussed the findings of the *Best's Special Report*, titled, *Interest Rates—The Long Wait. How Will European Insurers React to Uncertain Economic Conditions*?

Following is an edited transcript of the interview.

Can you explain some of the trends we've seen in A.M. Best's recent report looking at asset allocations of European insurers?

We've taken a sample of the largest 500 Northern and Western European insurance companies. Combined, they have an asset base around €8 trillion (U.S. $9.3 trillion).

We've witnessed the shift of approximately 2% to 3% of that moving from fixed-income investments to quoted equity. We've also seen an increase in alternative or other investment classes. Investment managers look for yield on that invested asset base.

Insurance-linked security is one such asset class that's benefited from both that increase in percentage allocation, and also has attracted additional capital to the industry.

What is the reason why there has been a shift in asset allocation?

It's been two-fold. We've been on one of the longest bull runs in history. The Financial Times Stock Exchange 100 has recorded record highs during this extended period of low interest rates. Corporate earnings have also benefited from cheap financing rates and relatively low-level inflation throughout this period. Firstly, we've got those rising asset valuations that contributed to higher allocation to equity. One slight offsetting factor is higher bond prices. They've also been on a strong upward trend during this period.

The other point that we really have seen is a small shift between those asset classes, as insurers and pension funds alike, search for ways to improve their performance and maintain funding levels.

Pension funds or insurance companies, particularly with longer tail liabilities, have really

Yvette Essen is director, research & communications, A.M. Best—EMEA. She can be reached at *yvette.essen@ambest.com*.

"In A.M. Best's opinion, those companies with a good level of asset diversification and strong risk management strategies will be those that will be able to produce consistent results as the economic cycle changes through the various phases."

Thomas Bateman
A.M. Best

struggled as a result of the low discount factors that they've been using at present.

You've detailed a few of the reasons why there's been a shift, but wasn't there an expectation that Solvency II might lead to a more conservative asset allocation strategy?

That is one potential theory. When Solvency II was introduced, that was designed to increase a more efficient allocation to encourage both stronger performance and solvency. One theory is that that would encourage insurers toward a more conservative asset base, attracting lower-risk charges to, in turn, report a high level of solvency.

That doesn't seem to fit with what we've seen in the sample that we've analyzed. The primary offsetting factor to that is that companies, particularly in our sample, but also in the European Union as a whole, are pretty well capitalized. From our analysis, the average Solvency II score for insurers operating under standard formula is comfortably in excess of 200%.

Hence, given the high level of solvency ratios we've seen, that's unlikely to be the primary driving force between asset allocations. Instead, insurers will look toward their asset liability management techniques, and also look to acquire higher levels of return with excess levels of capital.

One of the concerns for companies in Europe, obviously, is the impact of rising interest rates and higher inflation. Can you tell me what A.M. Best expects will be the impact on the companies that we've been looking at?

Inflationary pressure is always a concern for corporate earnings, as a whole, but also insurance companies as a subset of that. The inflationary pressures we potentially saw at the start of February that could lead to a faster-than-anticipated rise in interest rates is a cause of concern for investors and, hence, why we saw that volatility at the beginning of February.

Inflation for insurers essentially means a higher cost of claims. Those operating in competitive industries won't necessarily be able to pass those on to their consumers.

Also, insurers' earnings are benefited from a favorable prior year reserve development in the past, partially as a result of inflation levels that have been below initial pricing expectations.

In A.M. Best's opinion, those companies with a good level of asset diversification and strong risk management strategies will be those that will be able to produce consistent results as the economic cycle changes through the various phases. Hence, those companies will be able to mitigate potential areas of volatility the best. BR

The *Best's Special Report* is available at *ambest.com*.

A.M. BestTV

Go to *bestreview.com* to watch the video of this interview.

Pushing Back

Insurers seek to reduce claims by funding an anti-bullying app that allows anonymous reporting.

by Meg Green

Cyberbullying.

Todd Schobel will always remember the October day in 2012, when he first heard the term.

Driving to his home in Oldwick, N.J., he heard a radio report of how Amanda Todd, a Canadian teenager, had committed suicide after being cyber bullied for two years. Before she killed herself, she had posted a black-and-white YouTube video—which went viral after her death—telling her story through handwritten flash cards.

Amanda Todd was bullied and harassed online and in person. She had switched schools several times in an attempt to get a fresh start, but nasty comments followed her via social media. The cruel comments followed her after school hours, and into new towns. She saw no escape, no reprieve.

After she attempted to kill herself by drinking bleach, some classmates suggested she try again—and use a different brand.

"I'm stuck … what's left of me now … nothing stops," Amanda wrote. "I have nobody … I need someone. My name is Amanda Todd." She posted the video in September 2012, and committed suicide a month later. "It was shocking. It brought you to tears," Schobel said. "I envisioned this 14-year-old and what she was going through. What I saw was a child, cringing in the corner, saying 'What do I do? I just want this to stop.' It's horrifying what she went through."

Schobel made the STOPit app, which allows students to report bullying incidents anonymously.

Meg Green is a senior associate editor. She can be reached at *meg.green@ambest.com*.

Key Points

A Troubling Problem: Since the Columbine High School shooting in 1999, all 50 states have adopted anti-bullying laws. Schools, and the insurers that cover them, have paid millions of dollars in settlements and verdicts to families whose children were injured or died as a result of bullying.

There's an App for That: An app that allows students to report bullying incidents anonymously has attracted interest from insurers. Impressed with the app's ability to help prevent claims, insurers have been paying for it to be placed in schools and municipalities as a risk management tool.

Gaining Ground: The app, currently in 2,000 schools globally, allows administrators to get involved sooner, while creating a paper trail that reduces the claims stream. Bullying can result in general liability and errors and omissions claims.

"I wanted to make the app simple, fast and powerful," Schobel said. "It doesn't ask a lot of questions. It promotes acts of kindness. When someone sees something taking place, something that's not right—drug abuse, self-harm, a weapon being brought to school … it empowers students to share what they know, in real time, to administrators. It gives administrators a window into that world."

Insurers, impressed with the app's ability to help prevent claims, have been paying for it to be placed in schools and municipalities as a risk management tool.

The app is currently in 2,000 schools globally, Schobel said, saying the next step is expansion into municipalities and corporations.

Sticks and Stones

Older generations grew up with the proverb: Sticks and stones will break my bones, but words can never hurt me.

That adage doesn't hold true today, as bullying is linked to both suicides and homicides—and lawsuits and insurance claims.

Bullying has become a risk for insurers, said Scott Tennant, the contract administrator for the School Pool for Excess Liability Limits Joint Insurance Fund, which insures 76 public school districts in New Jersey.

Schools across the nation are subject to laws and regulations requiring them to provide a safe place for students. Since the Columbine High School shooting in 1999, in which two teen shooters murdered 13 people and wounded another 21, all 50 states have adapted anti-bullying laws.

Schools are liable under those laws, and they, and the insurers who cover them, have paid millions of dollars in settlements and verdicts to families whose children were injured or died as the result of bullying.

"We see a whole array, different types of legal theories brought, and most litigants try to do the shotgun approach and bring as many claims as possible," said Boston attorney John J. Cloherty III with Pierce Davis & Perritano.

Federal claims can include civil rights violations of substantive due process, violations or equal protection, statutory discrimination claims, or claims brought under the Individuals with Disability in Education Act, the IDEA, Cloherty said in an A.M. Best podcast.

"The state laws for bullying prevention may or may not be actionable in themselves," Cloherty said. "Negligence claims like negligent supervision, negligent hiring, and negligent infliction of emotional distress may also be filed."

Many verdicts and settlements have not been made public, but consider the $4.5 million settlement for the Anchorage School District after a 14-year-old attempted to hang himself and suffered irreversible brain damage. Some of the child's classmates had regularly harassed him, assaulted him in the bathroom, knocked his books out of his hands and threw his clarinet in the trash, according to the lawsuit.

Dozens of lawsuits across the country tell similar stories. A bullied child, pushed too far, attempts suicide. Suicide is the third-leading cause of death among teens, about 4,400 a year, according to the Centers for Disease Control and Prevention. Victims of bullying are two to nine times more likely to consider suicide than other children, according to studies by Yale University.

Beyond the tragedy of a single child ending her own life, some believe bullying victims pushed too far have been responsible for school shootings in the United States. School shootings leave behind broken lives and many unanswered questions.

While social scientists continue to search for the motivation behind school shootings, students are twice as likely to bring a weapon to school if they've been bullied, according to a Centers for Disease Control's *2011 Youth Risk Surveillance System Survey*.

"Eighty percent of kids who bring a weapon to school have been bullied," Schobel said. "I'm not saying if you cure bullying you cure school violence, but it's a good place to start."

There's an App for That

"The best response or the best defense to bullying claims is prevention," Cloherty said. "If you have your workforce trained to detect and prevent bullying, it's going to go far in making sure the claims never come forward."

SPELL, the school insurance pool, was one of the first insurers to cover the cost for schools to implement anonymous reporting apps like STOPit. So far, 14 of the pool's 76 schools have signed on.

Great American Insurance Group, which provides insurance or reinsurance to schools from California to Maine started to offer STOPit app in 2016, according to Scott Rohr, president of Great American's public sector division.

Bullying can result in general liability and errors and omissions claims, SPELL's Tennant said.

In New Jersey, the state's Harassment, Intimidation and Bullying law requires schools to fill out paperwork and investigate bullying claims. "The problem is when you become aware of [the bullying], it's often much later. It's very difficult to investigate, it's difficult to find out what occurred and it's difficult to make a difference," Tennant said.

The app allows users to send text messages, pictures or videos to a designated administrator. A chat window opens allowing for a two-way discussion, but the identity of the reporter is protected, Schobel said.

Instead of bystanders, students can become up-standers, he said.

“It’s changing the culture of schools … one administrator said to me, ‘We feel like we have a warm blanket around us once again.’”

Todd Schobel
STOPit App Developer

The app allows administrators to get involved sooner, while also creating an automatic paper trail, Tennant said.

“That reduces the claims stream,” Tennant said. “For every one of those events that we can check off, that’s $100,000 saved.”

Most claims start out as some form of bodily injury, Tennant said. But any failure of the school to follow the appropriate protocol and “the claim will morph into an E&O claim as well,” Tennant said.

Cry for Help

While STOPit was inspired to stop bullying, Great American’s Rohr said there are broader applications, including reporting cases of abuse and harassment, both in schools and in corporate America.

“In my 29 years in my career devoted to public entities and public schools, to my dismay, abuse and molestation have been an ongoing issue. I’ve seen different types of training for teachers and staff, and nothing seems to work. What I really love about the STOPit app is it allows the students to be part of the solution,” Rohr said. “It’s the only risk management tool that I’ve seen that really does work.”

Rohr said anonymous apps work because “the peer group kids usually know—almost always know—that something is in disarray. If somebody is being abused by a person or authority, some other kids know this. Or in some cases, there are other adults who know this, or they have a good inkling. Maybe not enough to meet with the principal or call an 800 number, but enough to take action anonymously.”

Schobel said an anonymous tip reporting through the app led a teacher/coach to be convicted of abuse.

When it comes to bullying, school administrators say just installing the app acts as a deterrent.

Not Just for Schools

Great American specializes in insuring and reinsuring public insurance pools across the country, including county and municipal pools. It’s also offered the STOPit app to municipal pools.

Somerset County, N.J. Prosecutor Michael H. Robertson met Schobel on a golf course and immediately thought the app would be great for his community.

“Police and law enforcement can’t be everywhere,” Robertson said. “The community is our eyes and ears.”

Since rolling out the app about a year ago, anonymous tipsters have helped authorities capture two fugitives, he said.

“It’s a very useful tool in a day and age when every person you see is walking along with a cellphone,” Robertson said.

When a civilian in Somerset County sends a tip through the app, it is routed to the emergency management center and then on to designated law enforcement authorities. The tip alone isn’t enough to trigger immediate police action, Robertson said, but the tips are investigated and vetted.

“The best part about the app, and why it’s called STOPit, is to deter these behaviors,” Schobel said. Use of the app continues to grow, as schools, businesses and municipalities both in the U.S. and overseas adopt it.

“It’s creating safer places, we hear it’s creating kinder places,” Schobel said. “It’s changing the culture of schools … one administrators said to me, ‘We feel like we have a warm blanket around us once again.’” BR

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Go to *bestreview.com* to watch a video about STOPit.

A.M. BestRadio

Go to *bestreview.com* to listen to a Best’s Insurance Law Podcast on bullying claims.

PEOPLE POWER

Technology is only as smart and helpful as the humans who created it.

by Travis MacMillian

Machine learning technology advances such as chatbots, virtual assistants and driver safety apps are transforming the insurance industry. They not only help to lower insurers' risks but provide customer service to policyholders. All this technology is created from insurers' technology infrastructures.

In the insurance industry, "infrastructure" is typically defined as the systems architecture on which a company's hardware and software conduct core enterprise and ancillary business functions. But as the lines between technology and operations continue to blur, that definition seems increasingly narrow. It suggests the brain power, the intellectual capital that informs every transaction and every decision shouldn't be considered part of every company's infrastructure. Is that accurate? Is it fair? I don't think so. Let me explain why.

Best's Review contributor **Travis MacMillian** is chief business officer at Xceedance, a global insurance consultancy. He may be reached at *bestreviewcomment@ambest.com*.

The Big Picture

With attention increasingly being paid to artificial intelligence (AI), robotic process automation (RPA), and machine learning—and with disciplines like strategic operations support (SOS) coming to the fore in pursuit of insurers' target operating models—one fundamental truth needs to be borne in mind:

All the technology in the world won't replace people. In fact, it can't, since it's impossible for technology to exist without them.

Everything run by AI, every automated bot, and every machine, the memory of which creates the illusion of learning, has to be developed, programmed and configured by a human being.

So, with that truth in mind, we all need to remember:

- AI might connect dots to simulate the appearance of creativity. But it doesn't create.
- Bots might perform repetitive activities as if they know all the subtasks within a given activity. But they don't improvise.
- Machines might appear to have learned from having conducted particular tasks or transactions. But they don't know anything they haven't done before.

Once we accept the truth of those realizations, we're on our way to broadening our understanding of the concept of infrastructure.

The Real Picture

Science fiction is chock-full of dystopian tales of robotic contraptions and artificial intelligence run amok. Consider just two: Isaac Asimov's *I, Robot* examines the relationships between humans, robots and morality, in particular the aberrant behavior of robots caused by their positronic brains. Likewise, in Arthur C. Clarke's *2001:A Space Odyssey*, the spaceship's onboard computer, the HAL 9000, concocts a story about the ship's communication unit (the AE-35) to lure one of the crew, Dr. Frank Poole, to his death. Thereafter, HAL kills three other crew members by asphyxiation and forces the sole survivor, Dr. David Bowman, to complete the ship's mission alone. Bowman is then transformed into an immortal Star Child, returns to Earth and detonates an orbiting nuclear warhead. Nice.

Is it possible that AI tools or embodiments like robots and HAL contain electrons that fire randomly, inexplicably, and chaotically, causing them to commit nefarious deeds without rational cause or provocation? Sure it is. Anything may be possible. Is it likely? Not so much. It's more likely that any aberrant behavior or undesirable consequences are attributable to the people who programmed those tools or embodiments.

In the insurance industry, the promises of hardware, software, AI, RPA, and machine learning are fantastic. Their applications, changing the way we operate as an industry, are becoming more than dreams. And with so many technological advancements and the quick development of our never-ending capabilities, we'll all achieve much. But there's no "infra" in infrastructure without people and their intellectual contributions. With the efficiencies enabled by strategic operations support, organizations will find more important, strategic roles for their people to play in the adoption of process-centric improvements and the evolution of their target operating models.

Technology doesn't invent or improve itself. People do. Technology doesn't generate and amass intellectual capital. People do. Infrastructures don't create themselves and their own structural, functional logic. People do. And that's the reality in all of the promises of hardware, software, AI, RPA, and machine learning. As a result, as technology evolves and becomes more adaptable to processes, insurers will be able to find ways for their people to contribute more fruitfully.

The Prioritized Picture

At this point, the notion of The Three P's—people, process, and product—has become a cliché. But all clichés contain kernels of truth. And there's nothing truer than the fact that people are your most important resources, whether they're salaried or contract, in-house or outsourced.

In his 1967 poem, *All Watched Over by Machines of Loving Grace*, Richard Brautigan imagined an idyllic utopia in which people and machines coexisted peacefully and protectively as depicted in the following stanza: "I like to think (and the sooner the better!) of a cybernetic meadow where mammals and computers live together in mutually programming harmony like pure water touching clear sky."

I like to think so, too. But as individual companies or an insurance industry, we're not there yet. And some of us may never be. Until we get there, and even when we are there, we'll have to rely on our people—on each other—leveraging technology through the intellectual aptitudes of our people to achieve what we need to achieve, in the insurance industry and everywhere else.

In fact, the 1960s slogan, "Power to the people," could be re-cast as "power in the people." All the technology in the world won't replace people. In fact, it can't, since it's impossible for technology to exist without them. The most important component of infrastructure is people.

People first. Always people first. BR

REINSURANCE INSIGHTS

The reinsurance market faces significant headwinds, pressured in part by growth in new forms of capital. In a December report, A.M. Best said considerable uncertainty remains surrounding the level of sustainability of any improvement in the reinsurance market's environment.

Even so, A.M. Best said it sees some potential positive factors that could favorably impact the reinsurance market over the near term. Some of those factors include a potential increase in demand from government risk pools such as the National Flood Insurance Plan in the United States, as well as opportunities in cyber, mortgage and other emerging risks.

In this special section, *Best's Review* examines the opportunities in mortgage and cyberrisks and provides an overview of the life reinsurance market.

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BACKSTOPPING The Mortgage Market

The reinsurance industry sees plenty of opportunity in the $1.7 trillion mortgage market, taking on risk from private mortgage insurers and directly from Fannie Mae and Freddie Mac.

by Martin Wolk

The reinsurance industry is playing a major role in the transformation of housing finance, plunging into a market that barely existed prior to the global financial crisis a decade ago. Dozens of reinsurers have taken advantage of new opportunities to take on mortgage credit risk, business that has proven lucrative at a time when more traditional lines have been lackluster.

Martin Wolk is a writer for *Best's Review*. He can be reached at *bestreviewcomment@ambest.com.*

Key Points

PMIs Ceding Risk: Last year, six private mortgage insurers ceded about 15% of their premiums to reinsurers, a practice that was virtually unknown prior to the global financial crisis a decade ago.

Reinsurers Dive Into Mortgages: Under Fannie Mae's and Freddie Mac's credit risk transfer programs, reinsurers have taken on $17 billion of mortgage exposure over the past five years.

Turning to Capital Markets: Arch Capital and other players now regularly turn to capital markets, selling insurance-linked securities that act as mortgage reinsurance.

Reinsurers participate in housing finance in several ways, including taking on credit risk directly from private mortgage insurers and by participating in credit-risk transfer programs run by Fannie Mae and Freddie Mac, the two government-sponsored enterprises that have been operating under federal conservatorship since 2008. More than 30 reinsurers are involved, including Renaissance, Everest, Third Point, Partner and Transatlantic.

Arch Capital Group, which operates the nation's largest private mortgage insurer, has been especially aggressive, raising $1.3 billion from capital markets for mortgage reinsurance and launching a controversial pilot project with Freddie Mac that offers a new opportunity for reinsurers to get involved at the front end of mortgage lending.

"Reinsurers are a very key component in terms of providing institutional-based capital," said Gina Subramonian Healy, vice president for credit risk transfer at Freddie Mac. "We're looking at long-term operating partners with a strong track record and well-diversified balance sheet. And that's a real important element in providing resiliency and liquidity to the mortgage market."

Prior to the global financial crisis of 2007-09, reinsurance was hardly known in the mortgage industry. Most conventional mortgage loans were repurchased and held by Fannie and Freddie. Borrowers who could not come up with a 20% down payment were required to buy private mortgage insurance, but that was pretty much all the protection the GSEs had against the biggest financial catastrophe since the Great Depression. Today the risk is spread far more widely, with the two GSEs, the mortgage insurance industry, reinsurers and, increasingly, capital investors all playing a role.

"U.S. mortgage insurance exposures, which generally have been an obscure product line for reinsurance companies, have now become very pronounced in reinsurers' lines of business," according to a *Best's Special Report, The Emergence of U.S. Mortgage Exposure in Reinsurance.*

"Each company probably has its own specific motivation, but there are several factors playing a role—the diversification benefit of adding mortgage risk to a reinsurer's risk profile, the perceived generous premiums compared with premiums in the property/catastrophe business [and] stricter mortgage origination standards since the credit crisis," said Emmanuel Modu, managing director, insurance-linked securities for A.M. Best. He also cited a new standard promulgated by the GSEs, Private Mortgage Insurer Eligibility Requirements, which increased capital requirements for private mortgage insurers and created an opening for reinsurers.

An A.M. Best webinar, *Evaluating Mortgage Risk in Reinsurance*, in February examined how A.M. Best analysts evaluate mortgage risk covered by reinsurers based on a new criteria procedure "Evaluating Mortgage Insurance."

A Growing Opportunity

Reinsurers began to get involved in the market several years after the crisis as mortgage insurance companies that survived started to cede some risk in the United States and other countries, including Australia. (Prior to the housing industry crash, there were 11 private mortgage insurance companies operating in the U.S., but with bankruptcies and consolidations, only six remain in business today.) In 2017, about 15% of gross premiums written by PMIs was ceded to nonaffiliated reinsurers, according to A.M. Best.

"The mortgage insurers have realized that keeping all of that risk on their books is difficult," said Andrew Davidson, president of Andrew Davidson & Co. and an expert in mortgage-backed securities. "As a monoline, they're not in a position to bear the sort of extreme risk of a financial crisis, particularly a housing crisis, and by ceding some of this risk they can really concentrate on what they're good at—sourcing the business [and] underwriting the business."

The opportunity for reinsurers grew in 2013 when Fannie and Freddie, under the direction of the Federal Housing Finance Agency, launched so-called credit risk transfer (CRT) programs to privatize some of their risk and insulate taxpayers against a potential repeat of the 2008 disaster. Under Freddie's Agency Credit Insurance Structure (ACIS) and Fannie's Credit Insurance Risk Transfer (CIRT) programs, some $17.2 billion of original mortgage exposure has been transferred to the reinsurance industry (as of June 2018), with at least 30 reinsurers participating.

In addition to the reinsurance deals, Fannie and Freddie have been transferring credit risk directly to capital markets through unsecured debt notes in programs known as STACR and CAS, which have attracted more than 220 institutional investors including hedge funds, money managers and insurers. All told, the two GSEs have obtained credit risk coverage on more than $2.2 trillion worth of mortgage loans.

"We did some, but certainly not enough, credit

"We look at that and we say, how can we design a better mortgage insurance business model that makes us a more reliably consistent counterparty so that we're there through the ups and downs of the cycle to make good on the things that we signed up to insure?"

Andrew Rippert
Arch Capital

risk transfer before the crisis," said Rob Schaefer, vice president for credit enhancement strategy and management at Fannie Mae. "It's in our DNA now." He noted that the market for mortgage-backed securities took "a couple of decades" to reach $2.2 trillion in loans sold, a milestone the GSEs have reached in just five years with their CRT programs.

Initial CRT deals were based on a pool of loans freshly added to GSE portfolios, but more recently Fannie and Freddie have created front-end deals, in which reinsurers commit to taking on credit risk for loans up to two years in advance, within specified guidelines. Pricing on the reinsurance is adjusted based on the exact composition of the loan portfolios.

"There is a lot of demand given the size of the U.S. housing market," said Jeff Krohn, managing director of Guy Carpenter's mortgage credit practice. But even with more than 45 reinsurers participating in the mortgage credit market globally, "there's still room for more reinsurers in the space," he said. About $1.7 trillion in mortgages was originated in 2017, according to the Mortgage Bankers Association.

An Active Participant

No reinsurance company has been more active in the post-crisis mortgage business than Arch Capital. Organized in 2001 as a specialty property and casualty insurer and reinsurer, Arch established a mortgage insurance business in Europe after the global financial crisis and then did two reinsurance transactions with mortgage insurers in 2011 and 2012, including one in Australia.

Shortly after that, Arch bought the remnants of bankrupt mortgage insurer PMI Group and began operating as a U.S. mortgage insurer in 2014. More recently Arch bought AIG's United Guaranty mortgage insurance unit in a $3.4 billion deal, vaulting Arch into position as the nation's largest private mortgage insurance provider.

At the same time, Arch began participating in the CRT programs and turning to the capital markets for additional funding. Since 2015, Arch and United Guaranty have closed four deals—most recently in March—raising a total of $1.3 billion in reinsurance for home loans by issuing insurance-linked securities in the so-called Bellemeade transactions, special-purpose vehicles similar in structure to catastrophe bonds. Arch expects to continue coming to market with similar ILS deals twice a year.

For reinsurers, the economics of the mortgage business are attractive, offering investors an opportunity to earn a 15% to 20% return on capital, according to Guy Carpenter.

"It's additional premium, and the risks associated with that premium are not highly correlated with the other risks that the reinsurers are typically taking on," said Davidson.

Krohn noted that both Fannie and Freddie have published their underlying mortgage data sets, allowing reinsurers to analyze historical performance with proprietary and third-party models in a "very granular way."

"There are a number of ways for them to get comfortable with the risk and make the case to management that it's something that they should be writing relative to other lines of business like property cat, where rates have been pressured for years," Krohn said.

In March, Arch roiled the industry by partnering

"To me, the fact that reinsurance is involved seems like it would ultimately be a good thing, because you've got more people to shoulder the burden."

Julie Rodriguez Aldort
Butler Rubin Saltarelli & Boyd

with Freddie Mac on a pilot project known as Integrated Mortgage Insurance, or IMAGIN, in which Arch and a pool of five other reinsurers agree in advance to provide mortgage insurance for high LTV loans that meet certain criteria—putting them in a first-loss position without the need for private mortgage insurance. A new Arch subsidiary, Arch Mortgage Risk Transfer, is acting as intermediary between Freddie Mac and the reinsurers. Neither the precise criteria for the loans nor the names of the other reinsurers have been disclosed publicly.

A trade group representing the mortgage insurance industry (with the exception of Arch), complained about a "lack of transparency" in the program.

"We believe that the IMAGIN pilot violates the spirit of the congressional charter for Freddie Mac and represents a significant blurring of the bright line separation between primary market and secondary market activities," said Lindsey Johnson, president and executive director of the trade group, U.S. Mortgage Insurers. She said the program puts taxpayers at greater risk "by circumventing the high capital and regulatory standards that MIs are held to today."

Andrew Rippert, CEO of Arch Capital's global mortgage group, defended the IMAGIN pilot, which will run for an initial 12 months, or until $2.5 billion in loans are covered.

"It took us several years to develop this program, and we went through a fairly rigorous review to make sure it's charter compliant and to make sure it's compliant with state regulations," he said. "In addition, all the reinsurers participating on this panel have gone through extensive review by Freddie Mac."

Healy, of Freddie Mac, said the program was approved by its regulator and clearly allowed by its charter.

"It's really about bringing in greater efficiencies and competition that overall lowers the cost for the borrowers and helps level the playing field for lenders," she said. "This is all about innovation. We're bringing in new sources of private capital to support high LTV lending through all cycles."

Johnson noted that private mortgage insurers are required to adhere to Private Mortgage Insurer Eligibility Requirements, or PMIERS, a set of financial standards imposed by Fannie and Freddie on the industry post-crisis. But Rippert said reinsurers post assets in trust against their obligations, effectively meeting similar standards. Rippert added that reinsurers tend to be highly diversified multiline carriers accustomed to dealing with catastrophic losses, while mortgage insurers are generally monolines that are 100% correlated to volatility in the housing market.

That said, he added: "We're the biggest mortgage insurance company in the U.S., and we're not going to just willingly shoot ourselves in the foot and destroy our own business."

He noted that several mortgage insurers did not survive the latest housing industry downturn. "We look at that and we say, how can we design a better mortgage insurance business model that makes us a more reliably consistent counterparty so that we're there through the ups and downs of the cycle to make good on the things that we signed up to insure?"

Arch is not the only mortgage insurance company to turn to capital markets for reinsurance. In March, "There are a number of ways for them to get comfortable with the risk and make the case to management that it's something that they should be writing relative to other lines of business like property cat, where rates have been pressured for years."

Jeff Krohn
Guy Carpenter

Essent Guaranty completed a $424.4 million deal with Radnor Re 2018-1, a newly formed special purpose insurer, for excess of loss reinsurance coverage on mortgage insurance policies written in 2017. Essent Group CEO Mark Casale said in May that such deals would become a "standard part" of its capital and credit management. NMI Holdings, another private mortgage insurer, did a similar, smaller deal last year.

Building Stability

While the future of housing finance is up in the air due to the unsettled status of Fannie and Freddie, industry executives say the diversification of risk should protect the GSEs and the mortgage insurers against a future housing bust, should one occur.

"To me, the fact that reinsurance is involved seems like it would ultimately be a good thing, because you've got more people to shoulder the burden," said Julie Rodriguez Aldort, a partner at the Chicago-based law firm Butler Rubin Saltarelli & Boyd with a practice in reinsurance and mortgage insurance.

The mortgage insurance industry, she noted, "paid a steep price" in the housing crisis. "We all learned a big lesson from that," she said. "It looks like for the most part the companies are recovering and being creative about how to be better prepared the next time around."

"The most important change is there is a regulatory framework in place," said Susan Wachter, professor of real estate and finance at the University of Pennsylvania's Wharton School. "So there is less likelihood that there will be a race-to-the-bottom competition among the insurance firms."

She noted that the worst excesses of the housing crisis have been eliminated from the marketplace, including aggressive, poorly priced instruments such as option-ARM mortgages, interest-only mortgages and Alt-A mortgages sold without any documentation of ability to repay.

"That's not to say we can't have a crisis again," Wachter added, noting that the housing bubble inflated and burst in a very short time frame a decade ago—just a few years. "Real estate and housing are vulnerable to bubbles," she said. "This is not a market where we can say, 'oh, we had a one-off problem in 2004-07 and that won't happen again.' We have to have information, and it has to be monitored continuously."

Several proposals are circulating for how to reform housing finance after a decade of conservatorship for Fannie and Freddie. Ironically, the system seems to be working well enough that the urgency for reform has faded, especially with midterm elections approaching.

"My personal view is if you look at the GSEs, their system is functioning extremely well currently," said Davidson. "It's just not clear that there is an alternative that functions better than what we have currently. … Why change a system that's basically working to something that might look good on paper but bears the risk that it won't actually function as well?"

Krohn, of Guy Carpenter, agreed, saying the CRT program, improvements to the loan production process and the influx of capital have de-risked U.S. taxpayers—not completely, but significantly. "The world is a safer place, and I think the GSEs and the mortgage insurers are all in a much better position to weather the future peaks and valleys that the housing market may encounter," he said. BR

Appetite For Longevity?

America's looming retirement crisis and mispriced longevity products present a "massive" growth opportunity for life reinsurers.

by Jeff Roberts

The troubling metrics defined the years after the crisis.

Stagnant growth hit the U.S. life insurance market. Plunging cession rates fell even further as primary carriers retained more of their risk. And prolonged low interest rates, changing buyer demands and regulatory volatility only raised more questions.

Those currents helped drive a wave of consolidation in the U.S. life reinsurance market, as the major players added scale to reposition themselves while the middle market largely vanished.

But a decade after the financial crisis, the life reinsurance industry is stable. Cession rates have leveled off. The consolidation ran its course. And a "massive opportunity" has emerged in longevity products, according to a consensus of market analysts and consultants.

"The traditional life reinsurance market is steady as she goes because the demand for life insurance is steady as she goes," said Colin Devine, principal and senior adviser of C. Devine & Associates, a consulting firm in the insurance and investment management sectors. "You haven't seen really much change at all. It's going to remain an oligopoly.

"The potential for longer term growth is the longevity piece, which is tied to the sale of income annuities. That's the future. If I looked at what's going to drive the stronger growth in the life reinsurance market over the next 10 years, it will be writing longevity reinsurance."

Five reinsurers—RGA, Munich Re, Swiss Re, Hannover Re and SCOR—control four-fifths of assumed life premium in the U.S. reinsurance industry, according to A.M. Best. Meanwhile, cession rates have stabilized at about 25%—and may have modestly increased of late—after steadily falling since 2002, when they stood at about 60%.

But the impending retirement crisis in the United States, driven by an aging American population living longer yet unhealthier and with increasingly precarious safety nets, presents a considerable avenue for growth.

Analysts see promise for reinsurers in single premium immediate annuities, deferred income annuities, pension closeouts and even long-term care and indexed or variable annuities with living benefits.

However, the longevity business also poses significant pricing risk due to the long-tail nature of the products. It has made some reinsurers cautious—even wary—of taking on too much exposure.

But they can capitalize by using improved technology such as wearables to sharpen underwriting and pricing and by forming partnerships with genomics, health care and wellness companies to provide hybrid insurance and medical solutions.

Longevity presents the chance for reinsurers to expand beyond their core mortality business and diversify as growth in the primary life space remains near stagnant.

"Longevity or lifetime income annuities are a massively untapped market," Devine said. "Those

Key Points

Massive Opportunity: The value of longevity reinsurance transfers/swaps surged from $9 billion in 2010 to $62 billion in 2014 and $50 billion in 2015.

Highly Concentrated: After a wave of consolidation, five reinsurers control four-fifths of assumed life premium.

Stabilizing: Cession rates have leveled out at about 25%—and may have modestly increased lately—after steadily falling since 2002, when they stood at about 60%.

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are capital-intensive products. If I want to manage my growth, reinsurance would be an integral part of how I do that.

"The ability to more finely price underwriting risk and potentially monitor it over time could make it a very attractive market. It strikes me that as a country we are woefully underprotected with respect to our longevity risk. People increasingly should worry about how long they're going to live. They want protected lifetime income," he said.

And industry leaders can leverage expertise they already possess. Many hold experience from operating in the already developed United Kingdom market.

"Reinsurers are always looking for areas of growth, but also areas where they can add value," said Kai Kaufhold, partner, prediction consulting and longevity with the advisory firm NMG. "Being specialists in mortality and analyzing experience, they have the right skill set to understand longevity risk.

"Most organizations have spent a lot of time investigating longevity risk and built models to be able to service the U.K. market. And now they're essentially leveraging that capability across the globe. And obviously with the U.S. being the largest life reinsurance market, it's natural for them to be very interested," he said.

Recent reports by McKinsey & Company and RGA point to longevity as a future growth area for life reinsurers.

And A.M. Best noted in its 2018 U.S. life reinsurance report that longevity—including pension risk transfers—could "serve as a natural (albeit imperfect) hedge" for reinsurers carrying sizable mortality books.

William Pargeans, director, A.M. Best, says aging baby boomers will be looking for income protection, thus the opportunity for insurance companies to increase sales of payout annuities is staged for growth.

"The corollary to that is companies that sell longevity business are going to want some protection against mortality," he said. "It would probably serve as a nice future revenue stream for reinsurers as well. It plays well together," he said.

A Dominant Few

And then there were five.

Or maybe six.

After the consolidation, the top five reinsurers control 61% of the face amount of the U.S. life market from non-affiliates, according to 2016 A.M. Best data. The top six hold 68.5%.

It is a highly concentrated, competitive field. The middle market has largely disappeared amid the consolidation, according to the 2017 Deloitte research report, *Reinsurance as a capital management tool.*

RGA held 14% of the U.S. market in 2016 with $1.9 trillion in face amount business, according to A.M. Best, followed by SCOR (12.8%), Hannover Re (11.5%), Swiss Re (9.9%) and Munich Re (7.5%).

Great-West Life also held 12.8% of the U.S. market in 2016—with a face value of $1.7 trillion.

The top players carry highly defensible market positions, and they're growing. The market share of the top 10 U.S. life reinsurers rose to 83% in 2016 from 65.6% in 2006.

But the traditional life industry's struggles could continue to reduce demand for mortality reinsurance.

"Obviously growing life sales remain a real challenge for the industry," Devine said. "They're looking at 1%, 2% a year. That hasn't changed. There's no reason to think that's going to change any time soon.

U.S. Life/Annuity – Top 10 Reinsurers Assuming Business from Non-Affiliates

Ultimate Parent Name	2016 Face Amount ($ Trillions)	Growth 2006-2016	Market Share (%) 2006	Market Share (%) 2016
RGA Group	1.9	42.1	14.7	14.0
Great-West Life Group (Canada Life Re)	1.7	364.7	4.1	12.8
SCOR Life US Group	1.7	193.2	6.5	12.8
Hannover Life Reassurance Co of America	1.5	2782.0	0.6	11.5
Swiss Re Life Group	1.3	23.1	12.0	9.9
Munich American Group	1.0	39.6	8.0	7.5
Aegon USA Group	0.7	-9.5	8.4	5.1
Metropolitan Life and Affiliated Companies	0.6	3650.9	0.2	4.2
Berkshire Hathaway Group	0.4	100.4	2.1	2.9
Voya Financial Group	0.3	-62.4	9.1	2.3
Top 10			**65.6**	**83.0**

Source: A.M. Best data and research


INSIGHT
A+

"Longevity or lifetime income annuities are a massively untapped market. Those are capital-intensive products. If I want to manage my growth, reinsurance would be an integral part of how I do that."

Colin Devine
C. Devine & Associates

"And even though people need the product, some in the industry make it too tough to issue a policy. It's a two- to three-month process to get a life policy issued, which is somewhat ridiculous."

Meanwhile, primary insurers continue to seek options with captive reinsurers, even if ceded amounts to affiliated entities declined 6.6% in 2015 and 10.1% in 2016.

So top line growth is a priority.

Yet A.M. Best's outlook for the life reinsurance sector is stable, thanks to the steady mortality market, favorable capitalization and reinsurers' conservative investment approach.

Growth on Horizon?

Then there's the potential for growth.

Several U.S. life insurers hold subpar blocks of business such as variable annuities and seek to employ capital in better-margined products, which likely will mean greater dependence on reinsurance.

The relatively underpenetrated long-term care market also offers the potential to not only cover existing books but help primary insurers innovate and improve offerings.

"Rates are a slowly creeping problem as companies come to grips with underwriting mistakes made on universal life with secondary guarantees, long-term care, variable annuities," Devine said. "These past underwriting mistakes are going to lead to companies having to raise capital or position their balance sheets more optimally."

Life companies may also look to reinsurers to help manage increased capital requirements. Tax reform may have reduced some demand, but only in the short term.

There is precedence: The longevity risk transfer market developed in the U.K. due to Solvency II, Kaufhold said.

"Other markets probably haven't been under that much regulatory pressure until now," he continued. "But I think with changing capital requirements in the U.S., that might actually trigger some massive shifts away from retaining longevity risk on the primary insurance companies' balance sheets."

For reinsurers, it all starts with underwriting. Technology and data analytics can make it more precise and efficient.

Devine pointed to John Hancock's Vitality Program, which rewards life policyholders with lower premiums for healthy lifestyle choices using wearable technology and games.

"It comes down to understanding the risk profile of a book, not just at the time it's sold, but to really watch how that risk unfolds over time," Devine said. "It's not just waiting 50 years for the claims to come in and hope I got it right.

"Access to medical records on a time-efficient basis and the use of wearables such as Fitbits and Apple Watches that are tracking things like heart rate help price risk more efficiently. And if I was a reinsurer and felt the primaries got it better, then I probably would give them a better price to reinsure it," he said.

After all, longevity gives reinsurers the chance to not only grow but diversify. The value of longevity reinsurance transfers/swaps surged from $9 billion in 2010 to $62 billion in 2014 and $50 billion in 2015, according to McKinsey's 2017 white paper, *Global reinsurance: Fit for the future*.

"There's a huge demand for the other side of life reinsurance if you could do that well," Devine said. "And we are going to see sales of those products measurably grow as people become more educated about their risk of living a long time. It's good news/bad news: You could live a long time, but you could run out of money.

"It's part of the same equation, whether you're pricing when someone is going to die or how long they're going to live."

Meanwhile, the market for managing pension assets in the U.S. continues to grow.

Single-premium pension buyout sales rose 68% in 2017 to $23 billion, according to the LIMRA Secure Retirement Institute. The total ranks behind only the $36 billion in deals reached in 2012.

Reinsurers' expertise and capacity to both access and manage these significant risk pools could prove to be a differentiator.

But longevity risks present challenges of their own.

Primary life insurers Prudential, MetLife, Principal Financial Group and Legal & General dominate the U.S. pension risk transfer industry. And it is not without its complexities.

MetLife admitted "material weakness" in its financial reporting and boosted its reserves $510 million pretax after disclosing recently that it lost track of 13,500 retirees. The company owed them monthly benefits it assumed in pension risk transfers.

And longevity raises long-tail risks unforeseen when products were underwritten. For instance, variable annuities with living benefits and long-term care products have been the bane of the life industry.

"Those are two lines of business where insurers in the past wrote a substantial amount of business and lost a whole lot of money doing so," Kaufhold said. "At the time, it obviously seemed like a great opportunity. Remembering that, reinsurers are going to be careful that they're not making similar mistakes with longevity risk, and they're going to limit the amount of capacity that they provide to make sure.

"But of course with the demographic shift, the whole focus of the retail market is going to evolve around the portion of the population that has a need and the resources to spend to service that need. And longevity risk factors into that because with evolving regulation, it's going to become expensive to hold that on a balance sheet."

Devine views reinsurers as best positioned to take on that exposure.

"They employ some of the smartest underwriters on the planet. I almost argue that they're the only ones equipped to take it on," he said. "They definitely understand the risk more than anybody."

Easily Defensible

Abundant capital. Strong market positions. Economies of scale.

Unlike other segments, the U.S. life reinsurance space poses imposing barriers to entry. No one has successfully broken into the global mortality space in several years, according to RGA.

The few new entrants have focused primarily on acquiring underpriced annuity blocks to accumulate and invest assets, not manage mortality.

"We're definitely seeing a focus on those distressed annuities where they can really run the assets and get more of a distressed sale," Devine said. "They think they're getting a bargain. In the traditional life insurance market, there's no bargains to be had."

The consolidation and a lack of entrants have narrowed the number of entities accepting ceded business by 40% between 2006 and 2016, hardening prices for buyers. Deloitte expects the hardening trend to continue.

And few reinsurers have the capacity to meet the needs of the largest primary life companies. So carriers typically spread risk over three or four reinsurers.

Of course, reinsurers do more than reduce insurers' exposure. They free up capital and manage earnings volatility through expert risk and capital management. They offer sophisticated underwriting, product design expertise, help write business, reduce claims costs and leverage advanced data analytics to improve pricing and strategic focus.

They have forged bonds with primary insurers over decades that are "often analogized to a partnership," according to the ACLI's Carolyn C. Cobb, vice president and chief counsel, reinsurance and international policy. Those relationships have strengthened the reinsurers' hold on the market.

"With life, it has to be a partnership. That's the only way it works," Devine said. "You're playing the long game. So you really have to be comfortable with the underwriting tendencies of that primary."

The information sharing is unprecedented in other reinsurance sectors.

"In my experience, longevity risk reinsurance is indeed an area where there's an astonishing amount of transparency between the ceding company and the reinsurer," NMG's Kaufhold said, "as to what their respective assumptions are and what the actual risk margins are that they are taking to cover the risk."

As a result, A.M. Best does not expect start-ups or short-term capital investors to disrupt the global market. That leaves a larger share of longevity business.

"The market for income protection products will continue to grow very strongly," Devine said. "And I can't imagine that if I was a primary that I wouldn't want a reinsurance company involved to help me manage that risk," Devine said. BR

Opening the CYBER DOOR

As ransomware and other cyberattacks proliferate, insurers are managing their exposures by sharing risk with reinsurers. Reinsurers are answering the call.

by Lori Chordas

The escalating cyberthreat to the global economy is opening the door to new opportunities for reinsurers.

The interconnectedness of devices and the evolution of new threats has helped to make cyberrisk one of the top concerns inside the C-suite as companies count losses in the hundreds of millions of dollars.

The International Monetary Fund, for instance, in June estimated that average annual losses to financial institutions from cyberattacks could reach a few hundred billion dollars a year.

High-profile attacks, such as the WannaCry and Petya ransomware incidents last year, and a multitude of distributed denial-of-service attacks, such as the Dyn attack in 2016, have made companies more aware of the potential for losses, including business interruption and physical damage.

"Three years ago, we didn't see issues—even on a large scale—that we see today with ransomware and other high-profile hacks," said Devin Page, a specialty reinsurance underwriter at Hiscox Re. "No one really has a complete handle on cyberrisk,

Key Points

Setting the Scene: Insurers are using reinsurance to manage the growth of their cyber exposures.

A Growing Market: The rapid growth of cyberthreats has created new challenges for reinsurers. The International Underwriting Association in May formed a new cyber group dedicated to the concerns of reinsurers.

On the Horizon: Alternative capital, such as insurance-linked securities, could soon be used to manage cyber exposures.

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but that uncertainty is why there is insurance and reinsurance," he said.

As insurers write more cyber coverage, they are managing their exposure by ceding more risk to reinsurers.

Ceding Risk

Cybersecurity insurance experienced significant growth in 2017, according to an *Best's Market Segment Report*. Total cyber direct premiums written grew almost 32% and policies in force 24%, according to the report released in May.

In 2017, cyber packaged policies in force increased 28%, some of which was due to the addition of affirmative cyber coverage to packaged policies, according to the report, *Cyber Insurance Market Sees Steady Growth, But Still Awaiting a Real Growth Spurt*.

While stand-alone cyber insurance grew significantly in 2016, the growth slowed somewhat in 2017. Overall stand-alone direct premiums written grew just 7.9% in 2017, compared to a 91.5% increase in 2016.

Insurers are actively using reinsurance to manage the growth of their cyber exposures, with over 75% of companies transferring risk to reinsurers, according to a PwC global survey of specialist writers active in the cyber market. No respondents indicated using nonproportional reinsurance at the time of the survey.

The majority of respondents are seeking to transfer risk above a predefined retention level, according to the survey, *Are Insurers Adequately Balancing Risk & Opportunity? Findings from PwC's Global Cyber Insurance Survey.*

The design of nonproportional reinsurance structures requires a robust quantification methodology, an understanding of the exposure accumulations, confidence in pricing, and a clear definition of what constitutes a cyber event.

Accordingly, PwC said, there is greater appetite for proportional reinsurance, where reinsurers can rely on a cedant's underwriting expertise to create an alignment of interest, rather than model results they do not trust.

The use of reinsurance also was noted in the A.M. Best report.

Premium and capacity in the cyber reinsurance market may be expanding. "I'm not sure the market understanding and modeling of cyber-risk is growing at the same pace."

Didier Parsoire
Scor

"Reinsurance remains another option for insurers to lower cyber exposure, with treaty reinsurance for cyber being much more widely available than facultative," according to the A.M. Best report.

"Capacity for treaty, specifically quota shares, is plentiful; however, most agreements include a loss ratio or event cap. Facultative reinsurance agreements may be an expensive and less preferred option."

Quota share is one of the "easiest" reinsurance structures to put in place, said Catherine Rudow, North American property and casualty senior vice president and senior underwriter of professional lines at Partner Re.

Stop loss is a bit more difficult to price due to lack of historical data and emerging trends. "For now, we've taken a rate-on-line approach, so mid- to larger-sized portfolios can more easily absorb the cost," she said.

Double-Edged Sword

Over the past five years, the cyber reinsurance community has evolved to meet the needs of their client base, said Ian Newman, partner of international reinsurance broker Capsicum Re's cyber division. "We are going to continue to see this evolution, but not just in the traditional market but also the ILS space as they look to deploy their capital into this expanding class."

As carriers move beyond commercial lines cyber, into areas such as personal lines cyber, reinsurers are responding with new solutions to allocate some of insurers' capacity into personal lines, said Eric Cernak, cyber and privacy risk practice leader at Hartford Steam Boiler, part of Munich Re.

In a sign of the reinsurance industry's growing interest in cyber, the International Underwriting Association in May said it had established a new cyber group dedicated specifically to considering the concerns of reinsurers. The committee is run for underwriters offering stand-alone cyber policies and is made up largely of carriers providing direct cover. Already 14 member companies are represented on the new committee.

Topics for discussion, the IUA said, are likely to include the impact of cyber war and terrorism risk; accumulation and aggregation of risk; the provision of cyber cover written within traditional classes of business; and natural perils as potential triggers for cyber events.

Consideration also will be given to areas of potential overlap or gaps between product liability and errors and omissions policies.

"The rapid growth and fast-changing nature of cyberthreats have created many challenges for reinsurers," said Chris Jones, IUA director of legal and market services.

"Companies are keen to support the development of dedicated cyber products in the London market and our new reinsurance group aims to encourage this through discussion of both underwriting and claims issues," he said. "It will also be looking to represent members' interest on any regulatory developments relevant to the sector and may consider new market policy wordings."

Even so, the upside may be somewhat limited.

"There are some pockets of opportunity with cyber insurance and mortgage reinsurance, but these do not come without risk and by themselves aren't enough to buoy the market in a meaningful way," according to a *Best's Special Report, Down But Not Out: Reinsurers Look to Reposition Amid Market Disruption*.

Premium and capacity in the cyber reinsurance market may be expanding.

“Carriers and reinsurers need to understand and quantify how much aggregated cyberrisk they actually have on the books.”

Erica Davis
JLT Re

“However, I’m not sure the market understanding and modeling of cyberrisk is growing at the same pace,” said Didier Parsoire, chief underwriting officer for Scor global P&C’s cyber solutions practice.

Some of the challenge stems from the difficulty in quantifying the risk. “Carriers and reinsurers need to understand and quantify how much aggregated cyberrisk they actually have on the books,” said Erica Davis, senior vice president at reinsurance broker JLT Re.

Cyber liability remains uncharted territory, said Berkshire Hathaway CEO Warren Buffett, speaking at this year’s annual shareholder’s meeting. Berkshire Hathaway is the parent of two major reinsurers, National Indemnity and General Re.

Buffett said he expects cyberrisks to get “worse, not better,” and the risks are still not well understood. “I don’t think we or anyone else really knows what they’re doing when writing cyber,” Buffett said.

Just like insurers, reinsurers are challenged by nonaffirmative, or “silent,” cyber.

Reinsurers are closely examining policies to determine if cyber is included and how it’s priced. Reinsurers are managing their exposures by sharing some of the risk as well.

“We’re now starting to see a few reinsurers cede some cyberrisk into the retrocession market,” said Jeremy Platt, head of U.S. cyber specialty at Guy Carpenter.

Alternative Capital

ILS has positioned itself well to take on what is the driver of volatility and capital: property catastrophe, Newman said.

“In the future, as cyber also becomes the driver of both volatility and capital the ILS market will position itself to take this risk on,” he said.

But it will take some time before capital market investors become comfortable with cyber-related products and exposures, Guy Carpenter’s Platt said.

“There’s definitely interest in providing reinsurance solutions for cyberrisk and certainly there’s a lot of capital to deploy in the capital markets. But investors need to continue to be educated and convinced that cyber is a product that can perform as profitably as it has in the past and can be modeled to aid in understanding tail exposure and pricing,” he said.

The Road Ahead

An expected rise in cyberattacks will deepen the dialogue between reinsurers and their clients and increase penetration in the market, said Davis of JLT Re.

“But that largely depends on the nature of those losses,” she said. “A large-scale data breach no longer moves the dial. But something like we had last year with NotPetya could certainly pique interest in areas like manufacturing.”

Insurers and reinsurers have yet to see a black swan event that could rattle the industry and change the cyber market, PartnerRe’s Rudow said. But once one occurs, “people are really going to sit up and take notice.” BR

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IMAGIN a New Way

In a roundtable discussion, A.M. Best experts discuss the framework for the new Freddie Mac mortgage credit risk transfer program, IMAGIN.

by John Weber

IMAGIN, or Integrated Mortgage Insurance, is the Freddie Mac pilot program launched in March to attract additional sources of private capital to support low-down-payment mortgage lending.

A newly established U.S. subsidiary of Arch Capital Group, Arch MRT, manages the mortgage credit risk transfer program, insuring Freddie Mac and then auctioning the assumed risk to a panel of (re)insurers. The long-term objective of IMAGIN is to lower the cost of mortgage insurance for borrowers.

A.M. Best analysts addressed questions surrounding the program as part of an A.M. BestTV webinar, *Evaluating Mortgage Risk in Reinsurance*.

John Weber is a senior associate editor. He can be reached at *john.weber@ambest.com.*

A.M. BestTV's John Weber hosted the discussion led by Emmanuel Modu, managing director, insurance-linked securities, with Dr. Wai Tang, director, and Steven Chirico, director.

Following is an excerpt from the webinar.

What Is IMAGIN?

Modu: Let's examine the framework for risk charge and reinsurers that participate in the IMAGIN program, which is a program that is offered by Freddie Mac.

It's a pilot program and it's called Integrated Mortgage Insurance, or IMAGIN.

In that program, reinsurers effectively provide mortgage insurance to mortgages held by Freddie Mac.

The program is associated with lender-paid mortgage insurance, and as far as we know, lenders will sell low-down-payment mortgages for Freddie Mac, and at the same time, Freddie Mac gets mortgage insurance coverage from a panel of pre-approved reinsurers managed by Arch MRT, which is an Arch Capital subsidiary.

The reinsurers post some level of collateral, generally based on their credit profiles. There are 12 participating lenders in the pilot program. [At the time of IMAGIN's launch in March] we have some questions about the program. We haven't gotten the full details yet, but some of the initial questions we have relate to the underwriting process, for example.

We want to know whether the reinsurers have taken on the same risks as the PMIs are taking. Is there any adverse selection in the mortgages they're covering? What is the coverage? Are there any risks covered by PMIs that the reinsurers do not cover? Are there any risks covered by the reinsurers that the PMIs do not cover?

Are reinsurers required to participate for more than one year? What is the universe of mortgages covered? Is it similar to the usual PMI universe? And will the data on the reference pools be publicly available so we can do our own analysis on the reference pools?

If the reference pools are standardized, we may be able to use a factor-based approach. If not, we may be able to use a credit risk model like LoanKinetics. If we use the factor-based approach, we need to create a new matrix. We need a new SUL [stressed ultimate loss] matrix from a mortgage insurer's perspective. And for that, we need the default frequency and contractual coverage amounts for our analysis.


Emmanuel Modu

Using the SUL matrix and our distribution of principal balances, we can calculate the ultimate loss associated with the reference pool. And these are the ultimate losses faced by the reinsurers. Remember that our reinsurers are now behaving like mortgage insurers.

Once the ultimate loss is calculated, we can then follow the same general steps we use for calculating a B5m from the CRT programs. An issue that should be discussed at some point is whether we include B5m in the analysis.

To calculate an SUL matrix from the perspective of a mortgage insurer, we need a couple of things. We need a default frequency table bifurcated by a loan-to-value ratio and credit score. We'll call that Table A. We also need a table of the contractual amounts covered by the mortgage insurers in the event of defaults of the mortgages.

We'll need that bifurcated by loan-to-value ratios and credit scores, as well. We'll call that Table B. And a cell-by-cell multiplication of the two tables will give us the matrix we need, really, to assess the risks faced by reinsurers who are behaving like mortgage insurers.

Here's an example. We've created a hypothetical frequency matrix, and this matrix is based on the 2007 single family loan level data set from the GSEs. We've modified it a bit for our purposes, but in this matrix, the frequencies are going up, unlike the SUL matrices you saw earlier, where you had losses going up and then going down. Here, there's no embedded mortgage insurance, frequencies are increasing from the lowest LTV to the highest LTV.

The next table you need is the assumed contractual coverage by the reinsurers. This is the percentage of losses that the reinsurers were going to hope for if the mortgages in the reference pools that they cover default.

We created a hypothetical table for this. We don't know the actual numbers, but we assume these are probably not that far off.

When we multiply the new loss matrix we created with the new covers percentage, we get then a new SUL matrix, which is Table C. This is the table we need to assess the losses associated with mortgages covered by the reinsurers who are behaving like mortgage insurers.

How do we use this table? We first have to get a distribution of the underlying principal balance of the reference pool. Here, we assume a reference pool of about $14 billion. It's actually a real transaction. And then, we'll distribute the balances by credit score and loan to value ratio.

We'll take this table and multiply it by the hypothetical loss matrix, and then sum all the balances up to get what would be the stressed ultimate loss associated with the pool covered by the reinsurers. In this case, it happens to be 3.44%.

Given the stressed ultimate loss, we calculate the present value of the loss developments, and then we net the premium credit in order to calculate the risk charge.

The details of the calculation will be the same as with the CRT transactions and as fully described in our new criteria, "Evaluating Mortgage Insurance." We've shown how to calculate B5M for the CRT programs, for the reinsurers of PMIs, and for other reinsurance programs, as well as a framework for calculating B5M for the imagined program. How do we then apply B5M to our BCAR model, which is our capital model?

Applying to a Model

Our BCAR model has got two main components. It's got the available capital components and net required capital components. We have to adjust these items to account for mortgage risks. Here's how we do it.

On the left panel, you see the components of available capital for most property and casualty companies. We add back continuous reserves and nonrefundable single premiums to available capital.

On the net required capital side, we correlate our mortgage-related reserves risk with investment risk. The correlation factor is about 50% for both fixed-income securities and equity securities. We also correlate in the B5 row the mortgage-related reserves and the nonmortgage-related reserves. The correlation factor we use is 10%.

This slide shows the interaction of the various underwriting risk elements. You can see that we add B5CM and B5FM to get B5M. Then, we put a 10% correlation between B5M and the nonmortgage-related reserves. B5 and B6 have zero correlation between them per our NRC formula.

This is the new net required capital formula. You see our criteria.

It incorporates the correlation between mortgage-related reserves risk and investment risk which is the first box. It also incorporates the correlation between mortgage-related reserves risk and nonmortgage related reserves risk which is already embedded in the B5 number. If there's no mortgage risk, this formula reduces back to our normal NRC formula for property and casualty companies.

This new formula is quite critical in the calculation of a BCAR score which is the critical component in our balance sheet strength analysis.

Four Main Verticals

Chirico: Manny and Wai just spent a lot of time talking you through how we calculate what is, in essence, an increase in net required capital to be input into our capital model BCAR and to result in the assessment of balance sheet strength. In a lot of ways, this type of analysis resembles what we do for terrorism stress tests and PML stress tests. In some ways, it doesn't resemble those things.

It resembles those stress tests, our stress ultimate loss here for mortgage, like a PML and like a terrorism stress test, in that it is making a company hold capital for an event that we're not sure when it's going to happen, but we are certain will happen at some point in the future.

It is unlike a PML in that it is part of standard BCAR. If a company writes property catastrophe reinsurance and they write mortgage risk, we assume 100 correlation such that the stress test for mortgage is part of standard BCAR. Then, the property cat stress test is additive to that from a net required capital perspective.

I'm going to talk about—switching gears now—the four main verticals in the interactive rating process from an analyst's point of view.

Assuming that balance sheet strength vertical is now taken care of by the increase in net required capital maintained in the BCAR model and then qualitatively from a quality of capital perspective analyzed in that vertical. The second vertical that I want to talk about is operating performance. We recognize that mortgage reinsurance can be very lucrative from a combined ratio perspective and a return-on-capital perspective for a reinsurer.

However, we also understand that there's relatively extreme volatility in the operating results of the mortgage reinsurance business over time. It seems to be unpredictable as to when it goes bad. When it goes bad, it goes bad very quickly.

Steven Chirico

The usual pillars of how we evaluate operating performance are the same as any other book of business or line of business that a reinsurer writes except for the fact that the volatility is heightened. To illustrate that point somewhat, we put together a table here that you can see takes us through time from 2006 to 2016.

You can see from a loss and LAE ratio perspective very extreme differences in operating performance depending on what year you're looking at. Like property catastrophe reinsurance that may have years where there's very low loss ratios, they're not quite as low in mortgage insurance when there's no risk.

In the catastrophe situation, the loss and LAE ratios tend to be higher unless the reinsurer absolutely doesn't know what they're doing from a property catastrophe perspective.

We incorporate that part of the analysis when we're looking at operating performance to recognize that we're looking at things like return on equity and combined ratios over time.

Before a company raises their hand and says, "Well, we wrote mortgage insurance at a 45 combined ratio, and that brought our consolidated combined ratio down by 20 points. Can we have plus one or plus two on our new BCRM?" The answer is no because the way we're looking at it is that we're looking at it through time.

We're taking more of a weighted average view of operating performance similar to what we do with property catastrophe insurance and reinsurance.

Switching over to business profile, which is the next vertical in the interactive rating process, I want to bifurcate my comments between the profile of the actual mortgage book of business being written, as well as talking about how mortgage affects the business profile of the entity consolidated both on the liability side of the balance sheet and the asset side of the balance sheet.

In a mortgage scenario, we're looking for a distribution of risk enforced by vintage. We're going to ask companies, "Are you opportunistically writing certain vintages or are you, for lack of better terms, dollar cost averaging over time your mortgage exposure?"

What we're looking for here is the diversification to be able to smooth out some of the bumps that we may experience from the results of the mortgage business.

The second bullet, mortgage loan characteristics such as loan age, original loan of value, credit scores, delinquency status, and on and on and on.

What we're interested in here is, is there a pointed opportunistic play in the mortgage market or is there a diversifying quality in the mortgage reinsurance being written by a reinsurer?

Then lastly but probably most importantly, is the geographic scope of the mortgage guaranty being written by a reinsurer. What we're looking for here is we understand that there can be hot pockets of downside risk in the mortgage reinsurance products being written, particularly in the PMI space, by reinsurers. We're looking for diversification so that some of those bumps from a geographic perspective can be ironed out.

We're also interested in how mortgage affects the business profile of a rated reinsurer. It affects it in two ways. It brings something else to the party from a liability perspective and other lines of business being written.

We are basically assuming that there's a relatively low correlation between mortgage reinsurance and other types of reinsurance with the possible exception of workers' comp which tends to be more highly correlated to the economy.

That will diversify the liabilities of the entity. It will provide relief assuming that the mortgage reinsurance business stays in the profitable space that it is currently. It's accretive from a diversification perspective.

From an asset perspective, we recognize that depending on the type of asset in the investment portfolio of a reinsurer, it can have a material effect on how we view both the quantitative and qualitative risk from a business profile perspective that mortgage reinsurance brings to the entity. Let's take two examples.

The first example would be a reinsurer that writes a well-diversified book of business from a liability perspective including mortgage and has a relatively safe, low volatility asset portfolio. Let's say sovereign triple A-rated securities and high rated corporate bonds.

What drives, in essence, some of the qualitative and quantitative measures that we use to assess what mortgage brings to a reinsurer is not necessarily the volume of assets, but the risk and the increase in net required capital those assets attract.

In the example that I gave you, it'd be a relatively low increase in net required capital for those types of assets and would have a resultant lower increase in required capital from the mortgage risk being assumed.

Compare that and contrast that to another entity that's taking much more risk in the form of a basket of S&P equity securities, alternative assets, hedge fund strategies, private equity, real estate, etc.

Because the net required capital on those more risky assets is higher, it will attract more qualitative and quantitative risk as far as BCAR and the overall analysis of the reinsurer from the introduction of the mortgage risk.

Distilling that down, what we're saying here is that we're being concerned about how correlated a reinsurer becomes to the economy in general, what the beta to the economy is, with the introduction of mortgage risk.

As we all know, mortgage risk is highly correlated to the economy, as well as certain risky assets. That is informing and driving our analysis both on a quantitative and on the qualitative side.

Enterprise Risk Management

The last pillar we are going to discuss as far as the rating of a reinsurer is enterprise risk management. In a lot of ways, this is the most important of all the verticals that we're going to be examining. In a lot of ways, enterprise risk management for mortgage is the same as any other line of business or book of business written by a reinsurer. We expect written procedures, controls, and safeguards to ensure sound underwriting decisions. That's across the board. That's the same.

We expect detailed and up-to date exposure information for an accurate assessment of potential claims associated with the loan portfolio and avoidance of concentration of its risk in force and a quality control program that assesses the effectiveness of the overall insurance business including risk selection, rescission rights, and loss mitigation practices.

What we're expecting in addition to these enterprise risk management tenets for a reinsurer that writes mortgage risk is the establishment of a well-thought-out early warning system. We recognize that operating results and the capital allocated toward claims will increase precipitously when a catastrophe hits. We saw that in 2008. We saw it in the early '90s. We saw it in the '80s and in the 1930s.

The early warning system is going to be key so that the reinsurer can start minimizing the amount of mortgage risk they're assuming as rates decay, as terms and conditions decay, and as the economy decays vis-à-vis real estate and the mortgage insurance product. What we're looking for here is again a well-thought-out action plan to respond to these early warning systems that a reinsurer has in place.

That is probably one of the most important things from a rating analyst perspective to make sure their reinsurer has thought about all these things, has incorporated that into their underwriting platform, their underwriting guidelines, and their risk management policies and procedures.

Required Information

Here's a laundry list of required information. I'm going to stress and talk about, a little bit, points one and five in particular.

The first question is why are you writing mortgage insurance or reinsurance? We're very interested how this fits into the greater scope of the reinsurer. We're looking at [the question,] is this more of an opportunistic play?

If so, we'll treat it as that. We'll expect the reinsurer to have controls in place to address that. It's more part of a larger, longer-term diversification strategy that will also drive some questions and some assessment, particularly in the enterprise risk management regime.

Is what is the organization's tolerance for mortgage risk? How do you measure it? What correlative assumptions are being considered by the reinsurer?

We expect a highly interactive discussion between the modeling that Manny and Wai spoke to you about, our discussion with companies over enterprise risk management and business profile, and the operating returns.

Then, how the reinsurer thinks about all of those things and how from an organizational perspective they have set risk tolerances, they have established early warning systems, and they have either grown or decreased the amount of mortgage business that they're writing in any one particular point in time and the reasons thereof.

We expect a highly interactive process. Frankly, the reinsurance organizations where we have been through this process with that have been actively writing mortgage for a period of time now, we find there's an extreme iterative process, more so than any other line of business.

Other additional requested information, we're asking for all of the reinsurance agreements associated with U.S. PMI and non-U.S. PMI. The reinsurance agreement on these types of coverages, it's different than the CRTs where information's publicly available. We want to see what reinsurers are actually writing, we'll understand the underlying risk from a loan perspective.

But certainly from a reinsurance contract perspective, we're going to want to scrub that reinsurance agreement and have discussions with management over how they think about those.

We're certainly going to talk about the stress levels applied to non-U.S. businesses. Australia's listed here. But we're aware companies are writing some European mortgage products and maybe potentially around the world.

Australia, for instance, we understand, is a commodity-driven economy. They have different pressure points and relief valves written into their economy and into the mortgage products that are offered thereof. We're going to want to get an understanding of that, how the company models that and how they think about that.

We're going to also have discussions about the precise definition of limits. Early on, maybe about a year and a half ago, we started surveying reinsurers about what types of mortgage reinsurance they were writing, how they were writing it. We asked for limit information. What we found we got back was different definitions of limit.

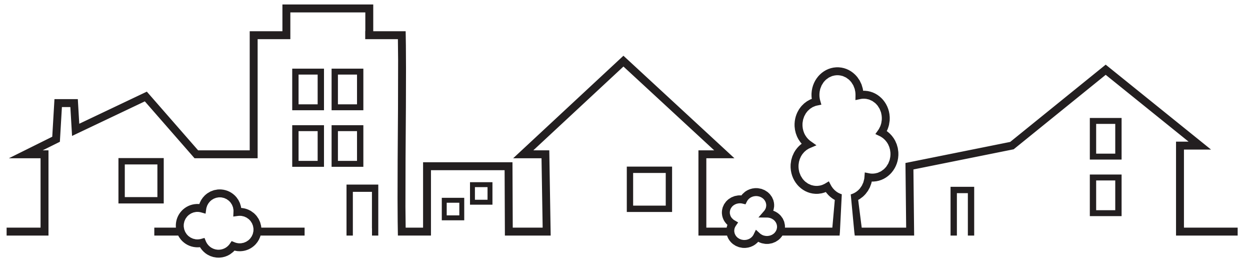
We are going to ask companies for their definition of limit. We're then going to right size that so that it's comparable against companies so that when we do our comparative analysis between reinsurers, we have a very clear definition of what the limits are, what the exposure the reinsurers are assuming is.

Then finally, loan level detail where appropriate. I'll be frank and tell you that in typical A.M. Best fashion, we've been methodical and conservative with how we make assumptions in the rating process. Loan level detail can offer some incisive contemplation of how we're viewing mortgage in a particular portfolio and can lend some details as how we should look at that.

We understand that we're being very conservative. We understand this market can be highly volatile, both from a capital perspective and operating performance perspective. A lot of these bits of information that we're gathering from a company help us identify where a company would fit from a comparative analysis perspective compared to other reinsurers. BR

A.M. BestTV

Go to *bestreview.com* to watch the webinar *Evaluating Mortgage Risk in Reinsurance.*



The Rise Of MILS

A.M. Best experts discuss mortgage-related insurance-linked securities as a substitute for traditional reinsurance.

by John Weber

Mortgage-related insurance-linked securities transactions are relatively new to the market.

Like natural catastrophe ILS transactions, they are collateralized securities and used as a substitute for traditional reinsurance. Several of these transactions have been sponsored by private mortgage insurers.

A.M. Best analysts examined how A.M. Best evaluates mortgage-related ILS transactions and the reinsurance credit to private mortgage insurers that sponsor MILS in the webcast, *Rating Mortgage Insurance-Linked Securities.*

A.M. BestTV's John Weber hosted a discussion led by Emmanuel Modu, managing director, insurance linked securities, with Dr. Wai Tang, director.

Explaining Mortgage Insurance

Modu: Mortgage insurance is a type of credit enhancement for mortgages with loan-to-value ratios of over 80%. The loan-to-value ratio is a ratio of the loan balance to the market value of the home. MI is most often used to credit enhance mortgages sold to Fannie Mae and Freddie Mac. An important factor in analyzing mortgage insurance is risk in force. This is essentially the maximum exposure faced by mortgage insurers that cover losses in a pool of mortgages.

Risk in force is a product of the MI coverage percentage and the unpaid principal balance of the mortgage.

Let's go through an example of mortgage insurance. Here you have a borrower who takes out a loan for $360,000 based on their property value of $400,000. A loan-to-value ratio for this mortgage is 90%. The MI promises to pay 25% of the first loss upon a default of the mortgage. The risk in force here is $90,000.

Sometime later, the borrower defaults on the mortgage. There's a foreclosure process that the mortgage goes through. At the time of default, the unpaid principal balance is $350,000, but there are other expenses to be added to that claim basis for the mortgage insurance. You have unpaid accrued expenses, accrued premium expenses and foreclosure expenses.

All together, the claim basis for this mortgage is $365,000. A quarter of that is $91,250, which is close to the risk in force, but it's slightly higher because of all of the other expenses. Risk in force is not a great measure for the stress losses an MI company will experience in a pool of mortgages.

The insurance in force of the six current U.S. mortgage insurers is about $960 billion through the end of 2017. Their risk in force is $242 billion through 2017. The ratio of the risk in force to the insurance in force is 25.26%. That's their MI

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coverage percentage on the average. Mortgage insurers seek reinsurance through the traditional reinsurance market.

The gross premium written ceded to third-party nonaffiliated insurers has grown. From 2015 to 2017, that ceded amount has grown considerably. In 2017, close to 15% of gross written premiums by the MIs have been ceded to third-party reinsurers.

The other market through which MI companies seek reinsurance is through the capital markets through MILS transactions. These type of transactions began in 2015. You can see that in 2018, there have been two transactions so far of close to $800 million. In total, that's close to $2 billion of risk in force ceded to the capital markets.

This is really a tiny little fraction of the total risk in force of the six MI companies. It really is only about, I think, 80 basis points of their risk in force. In terms of the companies that are involved in these deals, it's about 2% of their risk in force. It's a very tiny amount.

These are the six transactions we've seen so far. The first transactions were done by Arch/UGC. Arch and UGC have been involved in four transactions. National Mortgage Insurance has done one transaction, and Essent Guaranty has sponsored another transaction. The maturity of these transactions is generally about 10 years.

Dr. Wai Tang

Structure of MILS Transactions

Let's now talk about the general transaction structure of the MILS transactions. We made up a hypothetical pool, which has a feature similar to the features we see in other MILS transactions.

We highlight the current risk in force of about $10.2 billion, the average of mortgage insurance coverage, about 25.5%, which is close to the average MI coverage for the MI industry. We have the weighted average loan-to-value ratio of close to 92%. It's 91.6% here.

The weighted average credit score is quite high, it's 748. Ninety-eight percent of the pool is made up of fixed-rate mortgages.

This is the liability structure of the transaction. The Class 3 note is not attached until the ceding insurer absorbs the first $230 million of losses. This means that the Class 3 subordination level is $230 million, which is about 2.25% of the risk in force.

The Class 2 note is not attached until after the ceding insurer absorbs the first $230 million of losses and the Class 3 note is wiped out. This means that the Class 2 subordination level is $255 million or about 2.5% of our risk in force.

The Class 1 note is not attached until after the ceding insurer absorbs the first $230 million of losses and the Class 3 and Class 2 notes are wiped out. You can say that the risk of the subordination level for Class 1 is about $470 million or 4.6% of the risk in force.

Thereafter, after the exhaustion of Class 1 notes at the attachment of the coverage level of the losses, after the Class 1 note is exhausted is absorbed by the ceding insurer. In this case, the ceding insurer does not absorb losses again until the coverage Level B is exhausted, which is the ceding insurer's first loss position, and Class 3, Class 2, and Class 1 note is exhausted.

The subordination level for the ceding insurer that covers Level A is $740 million or so. That's a subordination level of 7.25%. This subordination level is important later on in terms of the trigger of our principal allocations we'll discuss later.

In terms of loss allocation, it's what we just described. The loss allocation begins from the lowest tranche, which is the coverage Level B absorbed by the insurer. It goes up to Class 3, Class 2, Class 1, and thereafter the loss is absorbed by the mortgage insurer. The hierarchy for the principal allocation is a bit more complicated. Let's first define a couple of coverage levels.

The first coverage level is coverage Level A. It's $9.47 billion of the risk in force. The remaining coverage level, which we'll call RCL, is about $741 million. The principal is allocated on a prorated basis between CLA, coverage Level A, and RCL, but within RCL, principal's allocated sequentially.

For every $100 that comes in through principal amortization and prepayments initially, $92.75 goes to coverage Level A and the remaining $7.25 goes to pay down Class 1 first, and after Class 1 is gone, the Class 2 and so on. You can see that the liability structure allows for a paydown of the coverage level as well as the notes themselves.

The price line, the paydown in our principal is based on when things are going great. When things are going poorly, all of the principal allocation goes to coverage Level A. The Class 1, 2, and 3 gets nothing until the conditions are great again.

What do we mean by when things are going great or not so great? When things are going great, it means that the 60-plus days delinquency rate is less than 5% and the subordination level for CLA is greater than or equal to 7.25%.

This means that the allocation of principal goes the way we described. That is, the coverage Level A and RCL get a prorated share of our principal. If things are not going great, it means that the 60-plus days delinquency rate is greater than or equal to 5% or the subordination level for coverage Level A is less than 7.25%. In that case, all the principal is allocated to coverage Level A.

Rating MILS

Tang: In this section, we will talk about the A.M. Best approach to rate the mortgage insured linked securities. As MILS are securities, we will assign long-term issue rating, or IR, to the notes.

The IR ratings has a 21-point scale from AAA to C. AAA is the highest credit, while C is the lowest one. The methodology used to rate the MILS is Best Insured Linked Securities and Structures Methodology, or BILSM, while the criteria used is evaluating mortgage insurance.

The information that A.M. Best will be reviewing for the rating purpose is pretty standard in the liability structure transactions.

In this type of transaction, loan level data's always available, so A.M. Best would use a third-party credit model, the LoanKinetics from Andrew Davidson, to calculate model mortgage loans related to the reference pool. LoanKinetics takes loan level data as input and output the monthly loss number at various confidence levels.

The key risk factors that are included in the model can be broadly categorized into either micro factors or macro factors. Micro factors are loan level data. Among some of them are the credit score and loan-to-value ratio.

Macro factors are macroeconomic factors. They are home price appreciation and interest rates. These two macro factors drive the default rates' severity, peak payment rates and transition rates. The output from the models are results corresponding to 20 different scenarios.

The scenarios that we are most interested in are the base scenario and some of the stress scenarios. Each scenario is correlated with a cumulative distribution function or CDF. CDF can be interpreted as the probability that the associated or less severe scenarios will happen.

The CDF of the base scenario is the 50th percentile, the median. Stress scenarios are scenarios with CDF greater than 50th percentile. In the range of 80 or higher percentiles are the ones that we are interested in.

Stresses that are applied to the base scenario are economic stresses and model stresses. Economic stresses are stresses on macro factors. In the interest rate case, it will be the perilous shift of the whole U-curve upward. In terms of home price index, the home price will fall down a certain percentage and then come back gradually, while in the base scenario, the home price index is always going up.

The other stresses are model stresses, which take into account a defect of model error. Therefore, it is stressing the parameters used in the equations to come up with the default rates, loss severity and prepayment rates which give you back both micro and macro factors.

Besides that, there is also a global stress which can be applied to all scenarios. That includes base scenarios. This global stress is different from stresses that we were just talking about here. The stresses that we were talking about here are used to bring us from the base scenario to higher CDF scenarios or stress scenarios.

To determine the rating of the security quantitatively we will run the reference portfolio through eco model LoanKinetics. Global stress, that we just mentioned previously, will be applied to all scenarios. The rating committee may ask for higher or lower global stress.

At the subordination level of each class of securities is the market's loss level. That the principal of that class of notes start to suffer, we'll find in the scenario that its cumulative loss in 10 years' time is equal to the subordination level of that class of note.

After that, we will determine the period in which the losses hit each class. We call this the "time to attachment." In this presentation, we assume that it is always 10 years, the legal maturity of the notes. In rare cases, the time to attachment can be less than legal maturity, especially for the Class 1 notes. However, it is quite technical. I'm not going to go into details here.

From the CDF associated with the class of notes we can calculate the default probability of that class of notes as one minus CDF. From both the time to attachment and the probability of default, we can correlate that to the Best's Idealized Issue Default Matrix to obtain the implied rating.

Please be aware that this implied rating is only derived quantitatively. There are other qualitative considerations needed to be taken into account before getting to the final rating. The final rating is determined by a rating committee after taking into account of various risk factors. As we mentioned, other than quantitative considerations, qualitative considerations are very important in the rating process. Some of the items we will consider are the credit risks of the sponsor paying premium through SPRV. However, in some cases or in some deals the transaction structure may mitigate this risk and that will not be applicable then.

Another item we want to emphasize is the quality control of the origination of mortgage loans. During the financial crisis in 2007, one of the reasons that mortgages did not perform well was the quality of the loan originated during that period was pretty poor.

Reinsurance Credit

Modu: While the rating of the MILS transactions are very important and interesting, we believe that what PMIs most care about is probably the amount of reinsurance credit they'll get for sponsoring these transactions.

As many of you know, A.M. Best has a capital model called BCAR, which helps evaluate balance sheet strength. The BCAR is made up of two main components, which is available capital and net required capital. An MI that sponsors a MILS transaction will reduce their net required capital.

The formula for net required capital has several components, fixed income, securities risk, equity securities risk, interest rate risk, credit risk, reserves risk, net premiums written risk, business risk and potential catastrophe losses. These items are plugged into the net required capital to calculate the NRC.

The NRC is calculated for five VaR levels according to our methodology. The VaR levels are 95, 99, 99.5, 99.6, and 99.8. Ultimately an MI that sponsors a MILS transaction will have its B5M, which is reserves risk, reduced somewhat.

Let's take an example.

B5M insurer represents the reserves risks of the MI before any reinsurance. Now some of the risk may be retained by the MI company and some may be ceded to the SPRV through the MILS transactions. Our task is to figure out what B5M will be, which is that the reserves risks are retained by the insurer after ceding to the SPRV.

We have to calculate that. Once we calculate that, we can then plug it into the NRC formula to calculate the BCAR ratio. Generically, how we calculate reserves risk is we begin with the reference pool. We calculate the losses in the reference pool and we determine how fast the losses develop in that reference pool.

Based on that, we can calculate the premiums accruing to the pool based on how fast the premiums are accruing to the pool. Then, we can also calculate the reserves risk as a PV of the losses associated with the reference pool less the credit for premiums. Specifically how we calculate reserves risk for the MILS transaction is that we begin by looking at the gross losses at each broad level.

From that, we can also determine the ceded losses at each broad level. We can then calculate the present value of the ceded losses in the MILS transaction for each broad level. Then, we can calculate the PV of the premiums that are accrued to the ceded losses in the MILS transactions at each broad level. Now, the premiums are spread over an index that's paid to the noteholders.

To calculate the reserves risk for the MILS transaction, which is B5M MILS, it's simply the difference of item three and item four. This is a representation of what we just discussed. On the right-hand side, you have the ceded discounted loss, which is effectively the loss absorbed by the noteholders in the MILS transaction at each broad level in the reinsurance transaction.

We have to subtract from that the premium ceded by the MI to the SPRV at each broad level. The difference of those two gives you a B5M MILS, which is the reserves risk associated with the business ceded to the SPRV in the MILS transaction at each broad level.

We're trying to solve for B5M MILS, obviously. To refresh your memory, this is a transaction structure. We begin with a risk in force of $10.2 billion. The note balance initially is $511 million. The first loss position is $230 million. The coverage Level A has got $9.47 billion. Let's take a look at a couple of VaR level analyses.

At the VaR 99 level, we can calculate ceded nominal loss and gross nominal loss based on the CDF from our model. You can see here that we've done so. We have the gross nominal, which does not exceed the detachment point of the Class 1 notes and we have the ceded nominal, which is really what we want.

The present value of the ceded nominal loss less the PV of the premiums is the reserves risk at the 99% VaR level. Notice, also, that the coverage Level A has gone down considerably. Initially, it was $9.47 billion. It is now at this VaR level $4 billion or so, because of the principal amortization.

The principal allocations are going mainly to the coverage Level A. Some allocations are going to the Class 1, because it's gone down from $271 million to $228 million, but not much. The rest of the classes are maintained. The balances are maintained. At the VaR 9.8 level, the same thing applies. BR

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Best's Rankings

U.S. Property/Casualty – 2017 Direct Premiums Written by Line

($ Thousands)

Business Line	Direct Premiums Written	% of Total	% Chg	Adjusted Loss Ratio 2017	Adjusted Loss Ratio 2016	Leading Writer	AMB #	% Market Share	% of Writer Total DPW	Second Leading Writer	AMB #	% Market Share	% of Writer's Total DPW
Private Passenger Auto Liability	$138,731,481	21.6	8.1	70.8	74.5	State Farm Group	000088	18.2	38.9	Berkshire Hathaway Ins	000811	13.0	46.8
No-fault	$16,395,700	2.6	6.5	78.0	81.5	State Farm Group	000088	17.2	4.3	Berkshire Hathaway Ins	000811	16.8	7.2
Other Liability	$122,335,781	19.1	8.4	69.8	73.5	State Farm Group	000088	18.3	34.5	Berkshire Hathaway Ins	000811	12.4	39.6
Homeowners Multiple Peril	$94,338,087	14.7	3.1	74.3	52.8	State Farm Group	000088	18.6	27.1	Allstate Ins Group	000008	8.4	25.3
Private Passenger Auto Physical Damage	$92,733,404	14.4	7.4	66.4	68.7	State Farm Group	000088	17.9	25.6	Berkshire Hathaway Ins	000811	12.5	30.3
Other Liability	$66,251,314	10.3	4.1	53.6	61.4	Chubb INA Group	018498	8.8	27.4	Amer Intl Group	018540	6.6	31.1
Occurrence	$43,295,404	6.7	5.6	55.8	67.2	Chubb INA Group	018498	7.7	15.6	Liberty Mutual Ins Cos	000060	5.4	6.9
Claims Made	$21,690,050	3.4	1.9	48.9	49.8	Chubb INA Group	018498	10.8	11.1	Amer Intl Group	018540	10.8	16.6
Excess Workers' Compensation	$1,265,859	0.2	-5.5	60.1	66.4	Tokio Marine US PC Group	018733	39.1	7.3	W. R. Berkley Ins Group	018252	12.9	2.9
Workers' Compensation	$58,200,508	9.1	-0.6	51.5	55.9	Travelers Group	018674	7.5	17.5	Hartford Ins Group	000048	5.9	30.6
Commercial Multiple Peril	$40,862,676	6.4	2.1	67.0	50.7	Travelers Group	018674	8.0	13.2	Nationwide Group	005987	6.2	13.1
Non-liability	$25,771,660	4.0	1.8	78.1	51.7	Travelers Group	018674	7.6	7.9	Nationwide Group	005987	5.7	7.6
Liability	$15,091,017	2.4	2.7	48.1	48.9	Travelers Group	018674	8.6	5.2	Nationwide Group	005987	7.0	5.5
Commercial Auto Liability	$27,391,148	4.3	8.8	71.2	70.6	Progressive Ins Group	000780	8.9	8.7	Travelers Group	018674	6.4	7.1
No-fault	$840,537	0.1	14.5	76.8	74.3	Amer Transit Ins Co	004660	10.6	26.8	Progressive Ins Group	000780	9.6	0.3
Other Liability	$26,550,611	4.1	8.6	71.0	70.5	Progressive Ins Group	000780	8.9	8.4	Travelers Group	018674	6.5	7.0
Inland Marine	$22,724,736	3.5	6.6	54.0	48.8	CNA Ins Cos	018313	16.4	35.7	Liberty Mutual Ins Cos	000060	15.1	10.1
Fire	$12,373,212	1.9	-3.4	67.3	46.2	Amer Intl Group	018540	9.5	8.3	FM Global Group	018502	5.7	19.8
Allied	$11,274,818	1.8	-1.9	169.8	55.9	FM Global Group	018502	7.6	24.3	Assurant P&C Group	018523	6.2	12.4
Multiple Peril Crop	$10,126,261	1.6	9.0	57.4	51.6	Chubb INA Group	018498	18.1	8.6	Zurich Finl Svcs NA Group	018549	15.5	12.1
Medical Malpractice	$9,221,729	1.4	-1.3	50.9	50.3	Berkshire Hathaway Ins	000811	11.8	2.8	Doctors Co Ins Group	018083	7.4	96.7
Commercial Auto Physical Damage	$8,748,642	1.4	9.2	67.2	63.8	Progressive Ins Group	000780	8.5	2.7	Travelers Group	018674	5.7	2.0
Surety	$6,227,558	1.0	5.6	15.7	15.6	Travelers Group	018674	13.3	3.3	Liberty Mutual Ins Cos	000060	12.6	2.3
Group Accident & Health	$5,084,072	0.8	8.9	63.0	67.8	Amer Intl Group	018540	14.7	5.3	Chubb INA Group	018498	14.1	3.4
Mortgage Guaranty	$5,010,312	0.8	1.6	12.2	19.5	Mortgage Guar Group	003014	22.4	99.9	Arch Ins Group	018484	21.5	30.2
Farmowners Multiple Peril	$4,289,322	0.7	3.0	73.2	53.5	Nationwide Group	005987	11.8	2.6	Farm Bureau P&C Group	004233	7.9	22.6
Product Liability	$3,657,612	0.6	2.9	36.9	39.3	Chubb INA Group	018498	10.5	1.8	Liberty Mutual Ins Cos	000060	5.5	0.6
Ocean Marine	$3,299,481	0.5	-3.0	64.6	51.1	Amer Intl Group	018540	15.2	3.6	Chubb INA Group	018498	7.9	1.2
Warranty	$3,072,145	0.5	5.2	56.7	54.7	AmTrust Group	018533	22.8	11.7	Ally Ins Group	018431	12.8	62.4
Earthquake	$3,003,194	0.5	4.5	4.5	-0.2	CA Earthquake Authority	012534	23.4	100.0	State Farm Group	000088	8.5	0.4
Federal Flood	$2,859,822	0.4	-0.4	301.1	127	Wright National Flood Insurance Company	012582	21.1	99.7	Assurant P&C Group	018523	18.6	9.4
Other Accident & Health	$2,063,243	0.3	8.7	104.9	121.3	State Farm Group	000088	34.8	1.1	CNA Ins Cos	018313	14.7	2.9
Credit	$1,997,970	0.3	1.8	48.2	44.6	Great Amer P & C Ins Grp	004835	17.0	5.7	Allianz of America Companies	018429	16.4	8.2
Boiler and Machinery	$1,689,839	0.3	-1.7	43.8	44.8	FM Global Group	018502	34.6	16.5	Amer Intl Group	018540	9.6	1.2
Aircraft	$1,606,061	0.3	1.2	55.7	56.1	Starr Intl Group	018756	16.7	11.7	Amer Intl Group	018540	14.5	1.7
Fidelity	$1,227,672	0.2	-2.4	39.8	38.6	Chubb INA Group	018498	20.2	1.2	Travelers Group	018674	16.2	0.8
Private Crop	$1,021,665	0.2	-2.4	96.2	87.3	Zurich Finl Svcs NA Group	018549	15.1	1.2	FMH Ins Group	018171	13.4	16.9
Private Flood	$641,883	0.1	54.4	165.0	37.7	FM Global Group	018502	41.0	7.4	Assurant P&C Group	018523	14.0	1.6
Financial Guaranty	$450,765	0.1	-1.1	175.8	32.5	Assured Guar Group	004017	58.3	100.0	Build America Mutual Assur Co	014981	13.4	100.0
Burglary and Theft	$332,880	0.1	11.2	10.7	18.5	Travelers Group	018674	20.2	0.3	Chubb INA Group	018498	14.6	0.2
Federal Employees Health	$1	0.0	15.3	-6.8	0.6	Nationwide Group	005987	100.0	0.0		-	-	-
Medicare Title XVIII	$0	0.0	-	999.9	-99.9	Amer Intl Group	018540	100.0	0.0		-	-	-
Aggregate Write-ins	$1,488,575	0.2	15.1	29.2	49.6	XL CatlinAmerica Group	018874	21.0	7.0	Fairfax Financial (USA) Group	003116	10.3	2.8
Total P/C Industry	**$642,002,086**	**100.0**	**4.7**	**67.0**	**60.7**	**State Farm Group**	**000088**	**10.1**	**100.0**	**Berkshire Hathaway Ins**	**000811**	**6.0**	**100.0**

Data for some companies in this report has been received from the NAIC.
Reflects Grand Total (includes Canada and U.S. Territories)
Source: BESTLINK — State/Line (P/C Lines)-P/C, US; Data as of: June 18, 2018

U.S. Commercial Multi Peril – 2017 Direct Premiums Written

($ Thousands)

2017 Rank	2016 Rank	Company/Group	AMB#	2017 Direct Premiums Written	% Change in Premiums	Market Share (%)			Adjusted Loss Ratios			% of Company Premiums
						2017	2016	2015	2017	2016	2015	
1	1	Travelers Group	018674	$3,273,372	1.4	8.0	8.1	8.1	45.9	44.5	39.8	13.2
2	2	Nationwide Group	005987	2,526,662	-1.6	6.2	6.4	6.5	72.1	53.5	52.3	13.1
3	3	Liberty Mutual Ins Cos	000060	2,359,507	3.0	5.8	5.7	5.7	64.3	44.8	40.2	7.0
4	4	Chubb INA Group	018498	1,974,758	-3.3	4.8	5.1	5.5	92.3	49.5	42.1	9.3
5	5	Tokio Marine US PC Group	018733	1,859,780	3.4	4.6	4.5	4.3	54.2	45.6	43.1	27.3
6	6	Hartford Ins Group	000048	1,837,979	2.6	4.5	4.5	4.5	53.2	54.3	48.0	16.5
7	7	Farmers Ins Group	000032	1,603,723	0.0	3.9	4.0	4.1	63.8	50.6	47.6	8.1
8	8	State Farm Group	000088	1,536,249	-1.1	3.8	3.9	3.9	58.6	53.1	43.0	2.4
9	9	Cincinnati Ins Cos	004294	1,216,498	3.0	3.0	3.0	2.9	50.7	55.5	43.7	25.0
10	11	The Hanover Ins Grp Prop & Cas Cos	004861	1,049,259	5.8	2.6	2.5	2.4	51.0	50.1	47.8	23.1
11	10	CNA Ins Cos	018313	1,014,517	0.5	2.5	2.5	2.6	55.1	41.1	45.8	9.7
12	12	Auto-Owners Ins Group	004354	940,948	3.9	2.3	2.3	2.2	46.3	47.0	39.3	13.2
13	13	Erie Ins Group	004283	859,884	3.2	2.1	2.1	2.0	40.8	41.4	46.8	12.9
14	14	W. R. Berkley Ins Group	018252	720,827	1.5	1.8	1.8	1.7	43.9	51.8	42.1	12.6
15	15	Allstate Ins Group	000008	643,307	-3.0	1.6	1.7	1.7	52.4	55.7	46.6	2.0
16	16	Zurich Finl Svcs NA Group	018549	631,992	-2.4	1.6	1.6	2.0	107.9	55.1	35.1	4.9
17	20	Markel Corp Group	018468	611,520	23.6	1.5	1.2	1.2	81.1	51.0	42.2	13.2
18	19	Allianz of America Companies	018429	595,414	5.6	1.5	1.4	1.4	80.5	125.1	47.6	15.0
19	17	Amer Intl Group	018540	591,800	-8.6	1.5	1.6	1.6	85.4	60.0	48.6	4.2
20	31	AmTrust Group	018533	531,687	101.9	1.3	0.7	0.6	53.3	57.4	45.1	8.9
21	21	Church Mutual Ins Group	018887	443,845	-1.5	1.1	1.1	1.2	57.3	46.6	44.9	58.3
22	22	Amer Family Ins Group	000124	433,529	-3.7	1.1	1.1	1.2	101.3	78.3	64.3	5.2
23	23	Westfield Group	000730	407,558	3.5	1.0	1.0	1.0	62.5	48.9	44.8	21.4
24	28	Berkshire Hathaway Ins	000811	388,087	25.7	1.0	0.8	0.4	58.4	102.2	57.3	1.0
25	30	Munich-Amer Hldg Corp Cos	018753	385,020	33.5	0.9	0.7	0.7	56.4	38.4	33.7	15.9
		Top 25 Writers		**$28,437,722**	**1.0**	**69.6**	**70.3**	**71.6**	**61.9**	**51.2**	**44.3**	**7.8**
		Total U.S. P/C Industry		**$40,862,676**	**2.1**	**100.0**	**100.0**	**100.0**	**67.0**	**50.7**	**45.1**	**6.4**

Reflects Grand Total (includes Canada and U.S. Territories).
Source: BESTLINK — State/Line (P/C Lines)-P/C, US; Data as of: June 18, 2018

U.S. Homeowners Multiple Peril – 2017 Direct Premiums Written

($ Thousands)

2017 Rank	2016 Rank	Company / Group	AMB#	2017 Direct Premiums Written	% Change in Premiums	Market Share (%)			Adjusted Loss Ratios			% of Company Premiums
						2017	2016	2015	2017	2016	2015	
1	1	State Farm Group	000088	$17,556,871	-0.3	18.6	19.2	19.6	80.9	54.2	48.0	27.1
2	2	Allstate Ins Group	000008	7,957,403	0.7	8.4	8.6	8.9	55.6	50.0	46.0	25.3
3	3	Liberty Mutual Ins Cos	000060	6,471,114	3.9	6.9	6.8	6.8	65.1	51.4	53.1	19.1
4	5	USAA Group	004080	5,703,741	6.8	6.1	5.8	5.6	83.4	72.9	60.2	28.3
5	4	Farmers Ins Group	000032	5,617,990	1.9	6.0	6.0	5.9	77.5	53.8	50.5	28.3
6	6	Travelers Group	018674	3,547,478	4.7	3.8	3.7	3.7	65.1	45.7	38.8	14.3
7	7	Nationwide Group	005987	3,290,890	-0.3	3.5	3.6	3.6	99.2	57.6	55.5	17.1
8	8	Amer Family Ins Group	000124	3,045,589	6.6	3.2	3.1	2.9	62.2	47.9	45.8	36.4
9	9	Chubb INA Group	018498	2,776,827	2.9	2.9	3.0	2.8	87.4	53.2	57.1	13.1
10	10	Erie Ins Group	004283	1,596,490	3.8	1.7	1.7	1.7	53.3	46.5	49.2	24.0
11	11	Auto-Owners Ins Group	004354	1,416,698	8.3	1.5	1.4	1.4	55.8	47.4	49.6	19.8
12	14	Amer Intl Group	018540	1,122,622	2.6	1.2	1.2	1.1	106.4	52.4	47.7	8.0
13	12	MetLife Auto & Home Group	003933	1,105,350	-2.7	1.2	1.2	1.3	62.6	60.6	58.8	30.1
14	15	Progressive Ins Group	000780	1,092,184	18.1	1.2	1.0	1.1	58.8	49.8	40.2	3.9
15	13	Hartford Ins Group	000048	1,037,570	-6.8	1.1	1.2	1.3	77.1	54.5	54.0	9.3
16	16	Universal Ins Hldgs Group	018752	982,378	11.5	1.0	1.0	0.9	67.0	28.8	23.7	93.0
17	17	CSAA Ins Group	018460	898,846	2.8	1.0	1.0	0.9	163.5	50.4	76.0	23.3
18	18	Amica Mutual Group	018522	847,665	9.1	0.9	0.9	0.8	74.4	64.7	76.7	36.7
19	19	Auto Club Enterprises Ins Group	018515	789,636	4.1	0.8	0.8	0.8	70.8	60.3	54.1	20.6
20	20	Heritage Ins Hldgs Group	018891	785,396	3.6	0.8	0.8	0.8	86.8	36.1	34.9	83.8
21	22	United Ins Group	018881	711,695	13.4	0.8	0.7	0.6	72.1	47.5	36.2	66.9
22	21	COUNTRY Financial PC Group	000302	673,431	0.2	0.7	0.7	0.8	69.1	56.7	59.2	27.9
23	24	Natl Gen Companies	018863	654,484	14.7	0.7	0.6	0.5	76.8	52.6	39.1	15.5
24	23	Tower Hill Group	018636	611,604	0.6	0.7	0.7	0.8	80.7	39.8	40.4	82.8
25	25	Assurant P&C Group	018523	609,113	9.1	0.7	0.6	0.6	46.9	51.8	39.8	10.8
		Top 25 Writers		**$70,903,065**	**2.7**	**75.2**	**75.4**	**75.5**	**74.9**	**53.4**	**50.2**	**20.8**
		Total U.S. P/C Industry		**$94,338,087**	**3.1**	**100.0**	**100.0**	**100.0**	**74.3**	**52.8**	**49.8**	**14.7**

Reflects Grand Total (includes Canada and U.S. Territories).
Source: BESTLINK — State/Line (P/C Lines)-P/C, US; Data as of: June 18, 2018

U.S. Medical Professional Liability – 2017 Direct Premiums Written

($ Thousands)

2017 Rank	2016 Rank	Company/Group	AMB#	2017 Direct Premiums Written	% Change in Premiums	Market Share (%) 2017	Market Share (%) 2016	Market Share (%) 2015	Adjusted Loss Ratios 2017	Adjusted Loss Ratios 2016	Adjusted Loss Ratios 2015	% of Company Premiums
1	1	Berkshire Hathaway Ins	000811	$1,089,793	4.1	11.8	11.2	10.7	39.1	41.7	37.3	2.8
2	2	Doctors Co Ins Group	018083	680,778	1.2	7.4	7.2	7.2	38.0	31.4	24.4	96.7
3	3	CNA Ins Cos	018313	491,579	5.7	5.3	5.0	4.9	50.8	26.1	30.4	4.7
4	4	ProAssurance Ins Group	018830	475,919	5.1	5.2	4.9	4.8	36.3	27.2	24.4	59.3
5	5	Coverys Companies	018359	414,361	2.8	4.5	4.3	4.4	54.2	59.1	45.8	93.9
6	6	Medical Liab Mutual Ins Co	003667	408,351	4.1	4.4	4.2	4.5	60.8	23.0	48.4	99.4
7	8	MCIC Vermont (A RRRG)	012014	334,601	16.1	3.6	3.1	2.5	78.1	72.2	86.5	96.0
8	7	Norcal Group	018539	332,145	0.7	3.6	3.5	3.8	43.7	44.7	41.8	100.0
9	10	Mag Mutual Group	018635	266,481	8.0	2.9	2.6	2.5	71.5	55.4	37.4	88.9
10	9	Physicians' Reciprocal Insurers	002888	185,965	-35.4	2.0	3.1	3.2	42.2	104.5	59.1	99.5
11	12	Hospitals Ins Co, Inc.	000157	174,199	-7.6	1.9	2.0	2.3	47.1	41.8	61.3	95.3
12	14	Liberty Mutual Ins Cos	000060	166,474	3.4	1.8	1.7	1.7	95.4	40.6	48.3	0.5
13	11	Amer Intl Group	018540	161,761	-28.0	1.8	2.4	3.6	34.2	176.5	91.3	1.1
14	13	ISMIE Mutual Group	018644	158,074	-9.9	1.7	1.9	2.1	42.3	32.0	42.4	99.0
15	17	Controlled Risk Ins Co of VT, Inc	011814	151,086	4.0	1.6	1.6	1.3	60.6	47.4	76.3	97.8
16	18	Chubb INA Group	018498	144,864	0.1	1.6	1.6	1.4	72.9	51.4	18.7	0.7
17	15	Constellation Ins Group	018840	144,482	-6.8	1.6	1.7	1.7	50.2	41.4	24.1	95.9
18	16	Medical Mutual Group (NC)	018072	138,854	-6.9	1.5	1.6	1.1	28.6	13.8	35.4	100.0
19	19	Fairfax Financial (USA) Group	003116	127,949	-3.8	1.4	1.4	1.5	51.7	49.0	59.1	2.3
20	20	State Volunteer Mutual Ins Co	003706	125,750	-3.5	1.4	1.4	1.4	17.7	19.5	33.2	99.9
21	21	Medical Mutual Group (MD)	005006	117,893	-3.8	1.3	1.3	1.4	44.6	43.9	49.4	99.8
22	22	Alleghany Ins Holdings Group	018640	116,384	5.5	1.3	1.2	1.0	32.2	25.2	26.3	8.7
23	23	Mutual Ins of Arizona Group	018867	103,836	-5.8	1.1	1.2	1.2	43.7	37.8	40.3	100.0
24	24	W. R. Berkley Ins Group	018252	94,148	-6.8	1.0	1.1	1.0	61.3	54.2	48.0	1.6
25	26	Natl Group	018249	93,885	1.3	1.0	1.0	1.0	28.1	28.7	40.4	100.0
		Top 25 Writers		**$6,699,612**	**-0.5**	**72.7**	**72.1**	**72.1**	**48.1**	**49.6**	**44.4**	**4.9**
		Total U.S. P/C Industry		**$9,221,729**	**-1.3**	**100.0**	**100.0**	**100.0**	**50.9**	**50.3**	**44.0**	**1.4**

Note: Data for some companies in this report has been received from the NAIC.
Reflects Grand Total (includes Canada and U.S. Territories).
Source: BESTLINK — State/Line (P/C Lines)-P/C, US; Data as of: June 18, 2018

U.S. Total Auto – 2017 Direct Premiums Written

($ Thousands)

						Market Share (%)			Adjusted Loss Ratios			
2017 Rank	2016 Rank	Company/Group	AMB#	2017 Direct Premiums Written	% Change in Premiums	2017	2016	2015	2017	2016	2015	% of Company Premiums
1	1	State Farm Group	000088	$42,406,521	6.8	15.9	16.0	16.0	68.9	77.2	69.3	65.3
2	2	Berkshire Hathaway Ins	000811	30,780,958	16.2	11.5	10.7	10.3	76.4	73.9	73.6	80.1
3	3	Progressive Ins Group	000780	25,964,690	16.6	9.7	9.0	8.5	63.4	66.5	63.4	93.2
4	4	Allstate Ins Group	000008	21,803,548	2.9	8.2	8.6	8.8	59.6	65.0	65.4	69.2
5	5	Liberty Mutual Ins Cos	000060	13,319,702	7.6	5.0	5.0	5.0	70.5	67.4	62.7	39.4
6	6	USAA Group	004080	13,154,959	12.5	4.9	4.7	4.6	83.2	90.0	88.1	65.3
7	7	Farmers Ins Group	000032	10,718,627	0.9	4.0	4.3	4.5	65.6	68.5	66.6	54.0
8	8	Nationwide Group	005987	9,020,261	-3.8	3.4	3.8	4.0	68.4	75.4	68.3	46.9
9	9	Travelers Group	018674	6,660,591	10.6	2.5	2.4	2.3	66.2	62.5	57.2	26.8
10	10	Amer Family Ins Group	000124	4,451,803	9.3	1.7	1.6	1.6	70.5	65.0	61.0	53.2
11	11	Erie Ins Group	004283	3,492,153	9.0	1.3	1.3	1.3	68.5	68.4	68.7	52.5
12	13	Auto-Owners Ins Group	004354	3,376,408	17.6	1.3	1.2	1.2	73.2	71.9	70.2	47.2
13	17	Natl Gen Companies	018863	3,020,405	20.5	1.1	1.0	0.9	68.7	68.1	66.5	71.8
14	14	Auto Club Enterprises Ins Group	018515	2,991,462	13.3	1.1	1.1	1.1	72.9	76.2	68.3	78.2
15	12	Hartford Ins Group	000048	2,872,234	-7.0	1.1	1.3	1.3	69.4	78.6	67.0	25.8
16	16	CSAA Ins Group	018460	2,806,072	11.2	1.1	1.0	1.0	66.2	70.5	71.7	72.7
17	15	Mercury Gen Group	004524	2,630,974	1.6	1.0	1.0	1.1	63.5	65.6	61.6	81.9
18	18	MetLife Auto & Home Group	003933	2,417,538	3.3	0.9	0.9	1.0	61.6	65.4	62.4	65.8
19	19	MAPFRE North America Group	018801	1,929,167	1.4	0.7	0.8	0.8	69.7	68.7	70.2	70.1
20	20	Auto Club Group	000312	1,787,223	7.2	0.7	0.7	0.7	101.2	77.3	88.1	74.1
21	21	Zurich Finl Svcs NA Group	018549	1,690,000	4.0	0.6	0.7	0.6	79.2	64.9	67.5	13.0
22	22	Chubb INA Group	018498	1,572,713	12.2	0.6	0.6	0.6	63.2	60.7	56.8	7.4
23	26	Kemper PC Companies	018908	1,452,622	12.2	0.5	0.5	0.5	65.7	69.3	66.4	79.1
24	25	The Hanover Ins Grp Prop & Cas Cos	004861	1,449,657	8.4	0.5	0.5	0.6	62.7	67.2	66.5	31.9
25	23	Infinity P&C Group	018584	1,397,180	-0.3	0.5	0.6	0.6	67.0	67.5	65.9	100.0
		Top 25 Writers		**$213,167,468**	**8.6**	**79.7**	**79.2**	**78.9**	**69.2**	**72.1**	**68.6**	**56.1**
		Total U.S. P/C Industry		**$267,604,674**	**8.0**	**100.0**	**100.0**	**100.0**	**69.2**	**71.7**	**68.2**	**41.7**

Reflects Grand Total (includes Canada and U.S. Territories).
Source: BESTLINK — State/Line (P/C Lines)-P/C, US; Data as of: June 18, 2018

U.S. Workers' Compensation – 2017 Direct Premiums Written

($ Thousands)

						Market Share (%)			Adjusted Loss Ratios			
2017 Rank	2016 Rank	Company/Group	AMB#	2017 Direct Premiums Written	% Change in Premiums	2017	2016	2015	2017	2016	2015	% of Company Premiums
1	1	Travelers Group	018674	$4,355,810	-1.6	7.5	7.6	7.8	54.3	54.6	59.8	17.5
2	2	Hartford Ins Group	000048	3,406,849	2.3	5.9	5.7	5.8	50.9	48.3	51.7	30.6
3	4	Zurich Finl Svcs NA Group	018549	2,923,427	2.9	5.0	4.9	5.0	50.8	64.6	65.1	22.4
4	3	AmTrust Group	018533	2,920,153	-6.1	5.0	5.3	5.2	56.4	51.3	56.5	48.7
5	5	Berkshire Hathaway Ins	000811	2,802,216	3.6	4.8	4.6	4.3	48.3	49.9	48.7	7.3
6	6	Chubb INA Group	018498	2,459,027	-3.9	4.2	4.4	4.2	47.4	47.5	49.4	11.6
7	8	Liberty Mutual Ins Cos	000060	2,446,892	1.8	4.2	4.1	4.3	60.4	60.3	65.3	7.2
8	7	State Ins Fund WC Fund	004029	2,277,778	-6.6	3.9	4.2	4.2	63.5	64.3	77.3	100.0
9	9	Amer Intl Group	018540	1,758,734	-18.0	3.0	3.7	4.4	78.3	106.5	96.2	12.5
10	11	Old Republic Ins Group	000734	1,458,125	0.7	2.5	2.5	2.5	64.8	63.5	65.9	35.4
11	12	W. R. Berkley Ins Group	018252	1,412,498	-1.8	2.4	2.5	2.4	38.4	50.0	47.5	24.6
12	13	Great Amer P & C Ins Grp	004835	1,366,601	4.8	2.4	2.2	2.3	47.8	48.5	51.1	23.1
13	10	State Comp Ins Fund CA	004028	1,360,106	-15.6	2.3	2.8	2.8	39.2	73.7	79.6	100.0
14	14	Accident Fund Group	018680	1,337,568	3.5	2.3	2.2	2.0	48.2	51.4	45.9	100.0
15	15	TX Mutual Ins Co	011453	992,073	4.6	1.7	1.6	1.9	50.7	38.9	44.7	100.0
16	16	Fairfax Financial (USA) Group	003116	951,811	0.6	1.6	1.6	1.6	32.1	24.9	28.3	17.4
17	17	ICW Pool	002967	930,755	-0.6	1.6	1.6	1.4	52.5	56.3	48.7	93.4
18	18	CNA Ins Cos	018313	737,873	-2.3	1.3	1.3	1.3	50.9	71.2	67.8	7.1
19	19	Employers Ins Group	018602	719,567	4.1	1.2	1.2	1.2	47.2	47.1	50.0	100.0
20	20	Pinnacol Assur	003471	620,980	-0.6	1.1	1.1	1.1	53.1	54.8	56.1	100.0
21	24	Starr Intl Group	018756	619,146	25.7	1.1	0.8	0.7	58.8	57.0	57.2	27.1
22	21	Arch Ins Group	018484	560,085	8.1	1.0	0.9	0.7	59.4	61.4	56.5	15.7
23	22	NJM Ins Group	003985	526,334	1.7	0.9	0.9	0.9	54.0	56.5	62.7	27.5
24	33	Markel Corp Group	018468	512,736	37.0	0.9	0.6	0.6	39.3	43.1	39.4	11.1
25	23	Saif Corp	003480	498,522	-0.3	0.9	0.9	0.8	53.0	45.1	59.1	100.0
		Top 25 Writers		**$39,955,666**	**-1.3**	**68.7**	**69.2**	**69.8**	**53.0**	**57.7**	**60.7**	**18.5**
		Total U.S. P/C Industry		**$58,200,508**	**-0.6**	**100.0**	**100.0**	**100.0**	**51.5**	**55.9**	**58.7**	**9.1**

Reflects Grand Total (includes Canada and U.S. Territories).
Source: BESTLINK — State/Line (P/C Lines)-P/C, US; Data as of: June 18, 2018

Best's Rankings

Top 200 U.S. Combined Life & Health Insurers

Ranked by 2017 admitted assets.
($ Thousands)

2017 Rank	2016 Rank	Company/Group	AMB#	Admitted Assets	% Change
1	1	Prudential of America Group	070189	$595,555,706	3.8
2	2	Metropolitan Life & Affiliated Cos Group	069169	427,564,490	0.9
3	3	New York Life Group	069714	320,496,126	5.6
4	4	TIAA Group*	070362	307,292,117	4.6
5	5	AIG Life & Retirement Group	070342	290,019,361	4.4
6	6	John Hancock Life Insurance Group	069542	272,029,693	6.1
7	7	Northwestern Mutual Group	069515	265,145,196	5.8
8	8	Lincoln Finl Group	070351	254,926,788	8.3
9	9	Massachusetts Mutual Life Group	069702	251,812,588	7.1
10	10	Jackson Natl Group	069578	241,568,398	11.6
11	11	Aegon USA Group	069707	217,575,851	1.8
12	12	Voya Finl Group	070153	200,193,566	5.7
13	14	Axa Finl Group	070194	199,534,700	11.9
14	13	Brighthouse Ins Group	070516	193,752,729	3.2
15	15	Principal Finl Group Inc.	020516	189,320,923	10.3
16	17	Nationwide Mutual Life Group	070822	171,209,656	12.7
17	16	Hartford Life Ins Group	070479	157,546,216	1.6
18	18	Allianz Life Ins Group	070187	141,291,787	8.3
19	19	Pacific Life Group	069720	135,236,993	8.5
20	20	Aflac U.S. Group	069824	114,323,368	3.9
21	21	Ameriprise Finl Group	069689	113,652,262	6.1
22	22	Sammons Enterprises Group	070533	97,331,250	9.4
23	23	Thrivent Finl for Lutherans Group	069600	94,652,846	7.2
24	26	Kaiser Fndn Group of Health Plans	070936	79,610,496	11.9
25	25	Guardian Life & Health Group	020389	76,716,654	6.1
26	24	State Farm Life Group	070126	75,995,849	4.3
27	29	Athene Life Group	070478	72,146,464	15.3
28	27	Genworth Finl Companies	070527	68,948,658	-0.5
29	28	Great-West Life Group	070366	65,023,081	2.7
30	30	Protective Life Group	069728	61,220,858	5.4
31	32	Global Atlantic Group	069786	53,076,228	15.7
32	31	Amer Equity Investment Group	070406	52,703,471	9.5
33	36	MN Life Ins Group	069565	46,914,341	15.1
34	33	UnitedHealth Group	020442	46,437,762	7.4
35	34	Western & Southern Finl Group	069754	43,928,362	6.4
36	38	Unum Ins Group	069743	40,537,955	0.5
37	35	Delaware Life Ins Group	069798	40,205,844	-2.0
38	37	Allstate Life Group	070106	39,876,700	-1.6
39	40	Symetra Life Group	070123	38,177,473	6.8
40	45	Oneamerica Group	070399	37,150,839	15.4
41	48	RGA Group	069611	36,786,892	28.1
42	41	Anthem Health Networks Group	069158	36,096,442	3.0
43	43	OH Natl Life Group	069717	35,848,956	8.1
44	44	Great Amer Life Group	069545	35,618,605	10.4
45	42	Cigna Group	069194	35,378,492	6.4
46	47	ERAC Group	070421	34,714,687	14.9
47	46	Security Benefit Group	069882	33,774,444	10.7
48	49	Fidelity Investments Group	070020	32,385,322	14.2

2017 Rank	2016 Rank	Company/Group	AMB#	Admitted Assets	% Change
49	50	Mutual of Omaha L&H Group	070532	30,223,613	9.3
50	39	Aetna Inc Group	070080	29,988,450	-16.3
51	51	Natl Life Group	069953	27,035,847	8.1
52	55	Penn Mutual Group	069722	26,064,625	11.9
53	52	USAA Life Group	070364	25,346,115	2.7
54	53	CNO Group	069862	25,031,748	2.8
55	54	Knights of Columbus	006616	24,953,724	5.6
56	57	Meiji Yasuda US Life Group	070499	24,798,084	9.6
57	61	Health Care Service Corp Group	069154	24,058,191	21.0
58	59	Berkshire Hathaway Group	070158	23,902,624	10.4
59	56	Sun Life US L&H Companies	070497	23,187,977	0.7
60	58	Fidelity & Guaranty Life Group	070403	22,841,149	4.4
61	60	Amer Natl Group	070166	22,477,598	8.6
62	81	Wilton Re US Group	070435	21,914,216	121.1
63	62	Ameritas Life Group	069790	21,250,306	7.3
64	64	Mutual of America Life Ins Co	008851	21,184,908	11.3
65	63	Nassau Reins Group	070510	19,303,515	-0.4
66	69	Humana Group	020169	19,165,577	16.7
67	66	Liberty Life Assur Co of Boston	006627	19,045,860	9.0
68	68	CMFG Life Group	070262	18,180,068	9.4
69	67	EquiTrust Life Ins Co	060315	18,168,732	5.2
70	65	Torchmark Cos	070265	18,162,038	0.8
71	70	Modern Woodmen of America	006737	16,166,264	5.0
72	71	Hannover Life Reassur America	068031	15,439,347	2.9
73	75	Zurich Amer Life Group	070470	14,275,615	15.3
74	73	Southern Farm Bureau Life Ins Co	007053	14,191,659	1.9
75	72	Swiss Re Life Group	070469	14,187,228	-0.6
76	74	Centene Group	069166	13,379,427	6.0
77	76	Tokio Marine US Life Group	069195	13,325,269	10.9
78	77	Lincoln Benefit Life Co	006657	11,231,298	-2.5
79	79	Natl Western Life Ins Co	006811	11,149,825	3.0
80	78	Woodmen of World Life Ins Soc	007259	10,975,459	1.2
81	82	COUNTRY Financial Life Group	070142	9,848,427	3.0
82	85	BC/BS of MI Group	069165	9,549,257	11.5
83	83	Horace Mann Life Group	069919	9,283,840	4.7
84	84	Farm Bureau Life Group	070472	9,073,480	3.5
85	86	Blue Shield of CA Group	020415	8,901,334	8.8
86	80	Highmark Inc Group	069155	8,834,211	-12.7
87	88	BCBS of FL Group	070909	7,826,948	4.0
88	87	Munich Amer Group	069170	7,633,605	-0.5
89	91	Sentry Life Ins Group	070125	7,152,748	14.3
90	90	Assurant Inc Group	070135	6,628,167	0.4
91	92	Lombard Life Group	070450	6,547,101	10.7
92	97	Molina Healthcare Group	069161	5,999,325	11.7
93	94	Amer Fidelity Group	069640	5,996,155	8.3
94	106	Local Initiative Health Authority of LA	064652	5,957,965	44.0
95	98	Horizon Healthcare Svcs Cos	070932	5,919,173	19.4
96	101	Wellcare Group of Companies	070528	5,682,590	29.0

2017 Rank	2016 Rank	Company/Group	AMB#	Admitted Assets	% Change
97	95	Amer Family Life Ins Co	006052	5,676,127	3.3
98	96	Americo Life Group	069676	5,649,532	3.1
99	107	BCBS of NC Group	070914	5,210,465	26.8
100	99	Lifetime Healthcare Group	069168	5,134,846	7.0
101	89	Farmers New World Life Ins Co	006373	5,127,319	-28.3
102	93	Independence Blue Cross Group	070982	5,072,917	-10.7
103	109	Legal & Gen America Group	069539	4,919,712	25.9
104	104	BCBS of MA Group	020455	4,674,686	10.4
105	105	CareFirst Inc Group	070916	4,573,725	10.1
106	103	Cincinnati Life Ins Co	006568	4,407,172	3.3
107	102	Kemper Life & Health Group	070340	4,371,488	1.6
108	112	BCBS of SC Group	069149	4,357,991	13.2
109	108	NGL Ins Group	070358	4,304,018	5.9
110	110	Auto-Owners Life Ins Co	006140	4,211,397	8.0
111	100	Heritage Life Ins Group	070530	4,196,352	-8.2
112	120	BCBS of AL Group	069177	4,007,912	29.5
113	114	Cambia Health Group	020223	3,994,615	8.8
114	113	BCBS of Minnesota Gr	070913	3,978,318	5.0
115	111	Kansas City Life Group	069692	3,940,994	1.4
116	115	Physicians Mutual Group	069724	3,772,582	3.2
117	116	Gerber Life Ins Co	007299	3,703,188	9.0
118	117	Union Labor Life Ins Co	007152	3,614,226	7.7
119	125	Advantage Capital Life Group	070486	3,293,470	17.6
120	124	BCBS of TN Group	070915	3,264,325	12.9
121	119	Independent Order of Foresters USB	006551	3,257,306	3.3
122	118	Pan-Amer Life Ins Group	069617	3,246,838	0.5
123	122	AAA Life Group	070388	3,181,586	7.8
124	121	Savings Bank Mutual Life Ins Co of MA	006696	3,032,422	0.5
125	142	Global Bankers Ins Group	070491	2,987,307	31.3
126	129	Delta Dental of CA Group	070892	2,925,746	7.6
127	126	Homesteaders Life Co	006534	2,921,342	5.4
128	132	Premera Group	020411	2,893,867	13.5
129	128	Security Mutual Life Ins Co of NY	007034	2,751,868	1.1
130	137	Orange Prevention & Trtmt Int Med Assist	064713	2,740,116	18.9
131	135	Wellmark Group	064437	2,709,251	13.5
132	127	Senior Health Ins Co of PA	007910	2,688,469	-2.0
133	130	Assurity Life Ins Group	070511	2,632,340	1.0
134	131	Prosperity Life Group	070471	2,513,366	-2.3
135	134	Michigan Farm Bureau Life Group	070514	2,493,788	4.3
136	138	Amer Enterprise Group	070369	2,480,407	7.7
137	146	Foresters Life Ins & Annuity Co	006413	2,463,426	15.0
138	145	GBU Finl Life	008161	2,456,868	12.1
139	141	LifeCare Assur Co	009200	2,438,448	6.8
140	143	Erie Family Life Ins Co	007276	2,433,124	8.3
141	136	IN Farm Bureau Group	070368	2,400,137	2.4
142	147	Medical Mutual of OH LH Group	069185	2,345,152	11.7
143	151	LA Health Svcs & Life Group	069179	2,312,793	14.7
144	144	TN Farmers Life Ins Co	008443	2,276,793	3.4
145	139	Beneficial Life Ins Co	006162	2,251,281	-2.1
146	133	Scor Life US Group	070253	2,207,354	-10.4
147	148	Manhattan Ins Group	070357	2,167,496	3.8
148	150	Kuvare US Group	070534	2,162,480	6.6
149	149	HealthPartners Inc Group	070930	2,147,448	4.9
150	140	EmblemHealth Group	020434	2,146,724	-6.6
151	153	Liberty Bankers Group	070410	2,130,694	12.5

2017 Rank	2016 Rank	Company/Group	AMB#	Admitted Assets	% Change
152	166	CareSource Group	070853	2,126,631	25.0
153	154	Vision Service Plan Group	070966	2,124,519	12.6
154	123	CVS Health Group	070851	2,106,907	-27.1
155	157	Blue Cross Blue Shield of AZ Inc	064465	2,104,423	18.1
156	152	UPMC Health Ins Group	070898	2,059,063	7.4
157	163	Oxford Group	070367	1,993,876	15.4
158	155	Combined A&H Group	070178	1,893,000	4.1
159	171	BC BS Kansas Health Group	081067	1,884,016	17.8
160	159	Primerica Group	070183	1,877,964	5.4
161	161	Federated Life Ins Co	006381	1,877,395	5.7
162	158	Inland Empire Health Plan	064578	1,868,765	4.9
163	160	Trustmark Ins Group	069845	1,860,174	4.7
164	156	Centre Life Ins Co	007367	1,790,730	-1.1
165	164	Partnership HealthPlan of California	064877	1,760,758	2.5
166	165	Arkansas Blue Cross/Blue Shield Group	070971	1,760,394	3.0
167	167	Columbian Finl Group	069961	1,758,903	4.0
168	170	Capital Blue Cross Companies	020393	1,743,770	8.4
169	168	Tufts Associated Health Plans Group	070875	1,736,943	5.5
170	174	Scottish Re (US) Inc	008785	1,654,480	10.2
171	169	Catholic Finl Life	008188	1,641,577	1.3
172	173	Triple-S Mgmt Group	020218	1,631,176	7.8
173	177	Boston Mutual Group	069993	1,550,722	5.3
174	178	Pekin Life Ins Group	070155	1,475,349	1.1
175	179	IL Mutual Life Ins Co	006542	1,442,322	0.6
176	181	Alfa Life Ins Corp	006293	1,430,241	4.0
177	196	Universal Life Ins Co	060097	1,402,979	23.3
178	182	Continental Gen Ins Co	007360	1,385,774	3.1
179	175	Medica Hldg Companies	070902	1,366,556	-8.7
180	162	Medco Containment Group	070102	1,358,546	-22.7
181	185	Funeral Directors Group	070016	1,336,436	5.9
182	189	BCBS of KC Group	020446	1,335,901	10.6
183	176	OneMain Hldgs Life Group	070506	1,325,413	-10.7
184	192	Renaissance Group	070965	1,308,956	11.5
185	188	Citizens Inc Group	069688	1,305,151	5.9
186	183	Gleaner Life Ins Society	006459	1,285,147	-2.4
187	187	Amica Life Ins Co	007464	1,283,398	3.4
188	194	Priority Health Group	020366	1,283,172	12.5
189	204	UCare Group	070852	1,270,805	33.2
190	186	Baltimore Life Ins Co	006143	1,268,835	2.2
191	184	Centurion Life Ins Co	006276	1,249,215	-3.0
192	191	Shelter Life Ins Co	006675	1,236,585	3.1
193	195	Catholic Order of Foresters	006191	1,195,875	4.9
194	180	Santa Cruz-Monterey Managed Medical Care	064656	1,194,988	-14.2
195	190	Harvard Pilgrim Health Care Group	070985	1,182,825	-2.0
196	193	Catholic Life Ins	008827	1,178,251	2.1
197	201	HI Medical Service Assn	064035	1,173,574	16.9
198	200	Natl Slovak Society of the US	009813	1,127,160	9.9
199	198	Sagicor Life Ins Co	006057	1,115,003	2.6
200	197	IHC Inc Companies	070933	1,102,133	0.7
		Top 200 Insurers		**$7,493,428,557**	**6.3**
		Total U.S. Life, Health and HMO		**$7,578,615,585**	**6.2**

* TIAA's assets are significantly understated. Most of its separate account assets are in its affiliate, CREF.

Note: Data for some companies in this report has been received from the NAIC.

Source: BESTLINK – Combined Life and Health, US; Data as of: June 7, 2018

Briefing Examines Tax Reform and Captive Ratings

Best's Briefing: Tax Reform: No Impact on Captive Ratings Anticipated (June 14, 2018)

The signing of the Tax Cuts and Jobs Act (TCJA) into law on Dec. 22, 2017 resulted in broad changes to the U.S. tax code not seen in over 30 years. It also made what is normally a busy year-end even busier, as management teams assessed the TCJA's impact on their companies and prepared the necessary disclosures.

We summarized some of the key aspects of the tax reform on insurers in our Dec. 21, 2017, briefing, *First Look—Tax Reform 2017*. In this briefing, we discuss some of the effects of the TCJA on captives, including how A.M. Best incorporates the effects of tax reform into the rating process. This briefing is the expressed view of A.M. Best and does not constitute tax advice, nor does it encompass all elements of tax reform.

Captives vary in size and complexity, and are incorporated in jurisdictions all over the world. U.S. parents may have domestic or non-U.S. captives, and in some cases they may have both. Because of the vast differences in corporate formations, the ways in which business is transacted, and the jurisdictions in which the companies operate, a one-size-fits-all analogy as to how tax reform has impacted captives is impracticable. Below, we outline how certain provisions of TCJA may affect captives:

Although the new tax law changes apply to the 2018 tax year, the reduction in the corporate tax rate from 35% to 21% benefits U.S.-taxpaying companies in 2017, including captives, as the rate reduction required that captives revalue their deferred taxes at the new lower corporate tax rate of 21%. (The alternative minimum tax—AMT—was repealed.)

Net operating loss carryforward and carryback rules remained at 20 and two years, for P/C companies (allowed on up to 100% of taxable income); the carryback rule for L/A companies was repealed. Loss carryforwards for life companies are permitted for 15 years, limited to 80% of taxable income. For P/C companies, the impact on loss carryforwards is neutral.

The valuation of reserves changed for both P/C and life companies. Companies are no longer able to elect their own historical loss patterns to determine loss reserves, but must use the aggregate industry patterns prescribed by the IRS. The effects of this change will vary depending on each company's loss experience, reserve philosophy, as well as the size of its reserve base.

The interest rate P/C companies use for discounting loss reserves changed from the midterm Applicable Federal Rate (AFR) to the corporate bond yield curve. For both P/C and life companies, the net impact of discounting is considered less favorable, as the recognition of profit is accelerated because discounted reserves will increase based on higher corporate bond yields.

Life insurance reserves for contracts are the greater of the net surrender value or 92.81% of the NAIC required reserve. Tax reserves cannot be less than the contract's cash surrender value or greater than the statutory reserve.

In 2017, the amount of premiums allowed for eligibility under Section 831(b) was increased from $1.2 million to $2.2 million. Companies who made the election under Section 831(b) are taxed only on investment income. Small captives who made this election may see an increased tax liability if they previously had a 15% tax rate.

For some U.S. corporations with foreign subsidiaries, there is a minimum tax on payments to foreign subsidiaries if the corporation's receipts are over $500 million and payments to its foreign subsidiaries are greater than 3% of total deductible payments. This Base Erosion Anti-Abuse Tax, or BEAT, would not apply to a foreign subsidiary that elects to be taxed as a U.S. taxpayer under Section 953(d). Other provisions have been put in place to repatriate overseas income and profits if a company was previously able to defer tax on them.

A passive foreign investment company (PFIC) has either more than 70% passive income or more than 50% of its assets generating passive income. The exception to the PFIC exception continues to apply to entities engaged in the active conduct of insurance business.

Qualifying insurance corporations must have insurance liabilities (loss reserves and loss adjustment expenses) greater than 25% of total assets. Shareholders of PFICs must file a specific tax form with the IRS.

Controlled foreign corporations (CFCs) are determined based on the proportion of holdings by a U.S. shareholder. CFCs were previously defined as U.S. persons who own 10% or more of the voting stock; the definition now also includes U.S. persons who own 10% or more of the value of the stock (even if such ownership was for only one day).

A.M. Best's Credit Rating Methodology (BCRM) provides a comprehensive explanation of the rating process. This interactive process combines both quantitative and qualitative measures to analyze rated organizations' balance sheet strength, operating performance, business profile, and enterprise risk management (ERM). The BCRM is applied to all credit ratings; captive ratings are also subject to the alternative risk transfer criteria. Other criteria may be applied as well, based on the characteristics of the rated entity.

The impact of tax reform is considered throughout the rating process, as follows:

Balance Sheet Strength

Revaluation of certain balance sheet items may have resulted from tax reform. Disclosures related to the impact of tax reform will be considered separately from year-over-year changes related to the business. Although the balance sheet strength of A.M. Best's rated captives tends to fall in the Strong or Strongest categories, these companies also have a number of ways to access additional capital if needed, from capital contributions by its parent or members to LOCs and loan backs.

Operating Performance

In many cases, the reduced corporate tax rate has resulted in higher net income, but for others there may have been other changes to the business structure that affected operating performance. Companies provide financial forecasts as part of the rating process, and impacts resulting from tax reform should be highlighted for 2018. BCRM takes into account the sustainability of earnings, keeping in mind that captives focus more on the preservation of capital rather than profits or returns. In some cases, excess profits are returned to the parent or members.

Business Profile

Because A.M. Best's rated captives are domiciled in various jurisdictions, and their size and structures vary greatly, assessing the impact of tax reform on the companies' business profiles is impracticable. Parent companies' BEAT calculations may affect the amount of business ceded to a non-U.S. captive; in several cases, however, these captives have made a 953(d) election and are being taxed as U.S. taxpayers, so the impact is nil.

Parent companies may have also elected to add another captive to their organizational structure, in which case the profile of the original captive may become more limited. In cases in which rated entities have a group rating modifier and an internal cession has been reduced or cancelled, alternative strategies that demonstrate explicit support, as well as other quantitative and qualitative factors, will be considered, to assess the level of rating enhancement afforded under the new structure (as we discussed in our Feb. 5, 2018, briefing, *Impact of U.S. Tax Reform on Group Rating Affiliations*).

Enterprise Risk Management

ERM is a key aspect of the rating process, as it links balance sheet strength, operating performance, and business profile. In discussions with management during the rating process, A.M. Best obtains valuable insight into how a company identifies, measures, treats, and monitors risk. Single parent captives are assessed in the context of their parent companies' operations, while group captives and risk retention groups (RRGs) are viewed similarly to a commercial writer, with their own ERM framework and management teams.

Management's response to tax reform will be a topic for discussion, because tax reform will affect captives in different ways, the depth of the ERM discussion on this factor will vary.

The foundation of A.M. Best's interactive rating process is ongoing dialogue with company management, which includes the captive's senior management team, captive manager, and parent company representatives. Tax reform is typically included in management meeting discussions, and our discussions with domestic and non-U.S. captives are no different. There may be cases when tax law changes prompt management to take different courses of action, and discussions about management's motivations and objectives are important components in assessing the effects on the captive and its role to its stakeholders. If the level of explicit support is modified or diminished due to the tax law changes, we would look to any new forms of explicit or implicit support that could warrant a comparable level of rating enhancement.

To date, tax reform has not affected A.M. Best's insurance industry ratings, including the captive sector. Overall, the impact of tax reform is a net positive for U.S. insurers, including domestic captives and offshore captives who have made the Section 953(d) election. U.S.-parented captives in foreign domiciles are working to achieve the most efficient solutions from an operations and cost perspective. Management teams considering strategic alternatives in the wake of tax reform continue to include us in discussions, as they contemplate changes to existing business or new corporate formations. BR

This *Best's Briefing* is available at ***www.ambest.com***.

Best's Credit Rating Actions

This edition lists all Credit Rating actions that occurred between June 1 and June 30, 2018. For the Credit Rating of any company rated by A.M. Best and basic company information, visit the A.M. Best website at *www.ambest.com/ratings/access.html* or download the ratings app at *www.ambest.com/sales/ambmobileapp*.

Operating Companies

Rating Action	Business Type	Company Name/ *Ultimate Parent*	AMB#	Current FSR ICR	Current Outlook/ Implications	Previous FSR ICR	Previous Outlook/ Implications	Domicile
		U.S., CANADA AND BERMUDA LIFE/HEALTH						
⊕	H	All Savers Insurance Company *UnitedHealth Group Incorporated*	009556	A a+	Stable Stable	A a	Stable Stable	Indiana
⊕	H	AmeriChoice of New Jersey Inc *UnitedHealth Group Incorporated*	064214	A a+	Stable Stable	A a	Stable Stable	New Jersey
⊕	H	Dental Benefit Providers of CA Inc *UnitedHealth Group Incorporated*	064716	A a	Stable Stable	A- a-	Stable Stable	California
⊕	H	Golden Rule Insurance Company *UnitedHealth Group Incorporated*	006263	A a+	Stable Stable	A a	Stable Stable	Indiana
⚑	L	Grange Life Insurance Company *Grange Mutual Casualty Pool*	007332	A- u a- u	Developing Developing	A- a-	Stable Stable	Ohio
☑	L	Hartford Life and Annuity Insurance Co *Hopmeadow Cayman GP LLC*	007325	B++ bbb+	Stable Stable	B++ u bbb+ u	Developing Developing	Connecticut
☑	L	Hartford Life Insurance Company *Hopmeadow Cayman GP LLC*	006518	B++ bbb+	Stable Stable	B++ u bbb+ u	Developing Developing	Connecticut
⊕	H	Health Plan of Nevada Inc *UnitedHealth Group Incorporated*	068619	A a+	Stable Stable	A a	Stable Stable	Nevada
⇥	H	HealthSpring of Alabama, Inc.	068784	NR nr		A- u a- u	Negative Negative	Alabama
⇥	H	HealthSpring of Tennessee, Inc.	064300	NR nr		A- u a- u	Negative Negative	Tennessee
⊕	H	Highmark Choice Company *Highmark Health*	068833	A a	Stable Stable	A- a-	Stable Stable	Pennsylvania
⊕	H	Highmark Inc *Highmark Health*	064010	A a	Stable Stable	A- a-	Stable Stable	Pennsylvania
⊕	H	Highmark West Virginia Inc *Highmark Health*	064415	A a	Stable Stable	A- a-	Stable Stable	West Virginia
⊕	H	HM Health Insurance Company *Highmark Health*	006128	A a	Stable Stable	A- a-	Stable Stable	Pennsylvania
⊕	H	HM Life Insurance Company *Highmark Health*	009063	A a	Stable Stable	A- a-	Stable Stable	Pennsylvania
⊕	H	HM Life Insurance Company of New York *Highmark Health*	060209	A a	Stable Stable	A- a-	Stable Stable	New York
⊕	L	ivari *Canada Pension Plan Investment Board*	066805	A+ aa-	Stable Stable	A a	Stable Stable	Ontario
⊕	H	MAMSI Life and Health Insurance Company *UnitedHealth Group Incorporated*	006046	A a+	Stable Stable	A a	Stable Stable	Maryland
⊕	H	MD-Individual Practice Association Inc *UnitedHealth Group Incorporated*	068606	A a+	Stable Stable	A a	Stable Stable	Maryland
⊕	L	Midwestern United Life Insurance Company *Voya Financial Inc.*	006718	A a+	Stable Stable	A- u a- u	Developing Developing	Indiana
⇅	H	MII Life Insurance, Incorporated *Aware Integrated Inc*	009495	B++ bbb+	Positive Positive	B++ bbb+	Stable Stable	Minnesota
⊕	H	National Pacific Dental Inc *UnitedHealth Group Incorporated*	068837	A a	Stable Stable	A- a-	Stable Stable	Texas
⊕	H	Neighborhood Health Partnership Inc *UnitedHealth Group Incorporated*	064001	A a+	Stable Stable	A a	Stable Stable	Florida
⊕	H	Nevada Pacific Dental *UnitedHealth Group Incorporated*	064826	A a	Stable Stable	A- a-	Stable Stable	Nevada
⊕	H	Optimum Choice Inc *UnitedHealth Group Incorporated*	068764	A a+	Stable Stable	A a	Stable Stable	Maryland
⇅	L	Optimum Re Insurance Company *Optimum Group Inc*	008863	A- a-	Positive Positive	A- a-	Stable Stable	Texas

Rating Action: (⊕) Upgrade; (–) Downgrade; (New) Initial Rating; (⚑) Under Review; (⇅) Change in Outlook; (⇥) Rating Withdrawal; (☑) Rating Affirmation.
Outlook: Positive, Negative, Stable. **Implications:** Positive, Negative, Developing. **Business Type:** **P** = Property/Casualty (Non-Life); **L** = Life; **H** = Health; **T** = Title; **C** = Composite.

Rating Action	Business Type	Company Name/ *Ultimate Parent*	AMB#	Current FSR ICR	Current Outlook/ Implications	Previous FSR ICR	Previous Outlook/ Implications	Domicile
U.S., CANADA AND BERMUDA LIFE/HEALTH (CONTINUED)								
⇅	L	Optimum Reassurance Inc	066827	A-	Positive	A-	Stable	Quebec
		Optimum Group Inc		a-	Positive	a-	Stable	
⊕	H	Oxford Health Insurance, Inc.	060022	A	Stable	A	Stable	New York
		UnitedHealth Group Incorporated		a+	Stable	a	Stable	
⊕	H	Oxford Health Plans (CT) Inc	068933	A	Stable	A	Stable	Connecticut
		UnitedHealth Group Incorporated		a+	Stable	a	Stable	
⊕	H	Oxford Health Plans (NJ) Inc	068934	A	Stable	A	Stable	New Jersey
		UnitedHealth Group Incorporated		a+	Stable	a	Stable	
⊕	H	Oxford Health Plans (NY) Inc	068716	A	Stable	A	Stable	New York
		UnitedHealth Group Incorporated		a+	Stable	a	Stable	
⊕	H	PacifiCare of Arizona Inc	064218	A	Stable	A	Stable	Arizona
		UnitedHealth Group Incorporated		a+	Stable	a	Stable	
⊕	H	PacifiCare of Colorado Inc	068639	A	Stable	A	Stable	Colorado
		UnitedHealth Group Incorporated		a+	Stable	a	Stable	
⊕	H	PacifiCare of Nevada Inc	064219	A	Stable	A	Stable	Nevada
		UnitedHealth Group Incorporated		a+	Stable	a	Stable	
⊕	L	PartnerRe Life Reinsurance Co of America	061745	A	Positive	A	Stable	Arkansas
		EXOR N.V.		a+	Positive	a	Positive	
⊕	L	PartnerRe Life Reinsurance Co of CA	066889	A	Positive	A	Stable	Ontario
		EXOR N.V.		a+	Positive	a	Positive	
⊕	H	Physicians Health Choice of Texas, LLC	064777	A	Stable	A	Stable	Texas
		UnitedHealth Group Incorporated		a+	Stable	a	Stable	
☑	L	ReliaStar Life Insurance Co of NY	006157	A	Stable	A u	Developing	New York
		Voya Financial Inc.		a+	Stable	a+ u	Developing	
☑	L	ReliaStar Life Insurance Company	006846	A	Stable	A u	Developing	Minnesota
		Voya Financial Inc.		a+	Stable	a+ u	Developing	
☑	L	Security Life of Denver Insurance Co	007029	A	Stable	A u	Developing	Colorado
		Voya Financial Inc.		a+	Stable	a+ u	Developing	
⊕	H	Sierra Health & Life Insurance Co Inc	007370	A	Stable	A	Stable	Nevada
		UnitedHealth Group Incorporated		a+	Stable	a	Stable	
⊕	H	TPM Life Insurance Company	007114	A-	Stable	B++	Stable	Pennsylvania
		Wheaton Management, LLC		a-	Stable	bbb+	Stable	
⊕	H	UHC of California	068705	A	Stable	A	Stable	California
		UnitedHealth Group Incorporated		a+	Stable	a	Stable	
⊕	L	Unimerica Insurance Company	009065	A	Stable	A	Stable	Wisconsin
		UnitedHealth Group Incorporated		a+	Stable	a	Stable	
⊕	L	Unimerica Life Insurance Company of NY	060392	A	Stable	A	Stable	New York
		UnitedHealth Group Incorporated		a+	Stable	a	Stable	
⊕	H	United Concordia Companies Inc	050692	A	Stable	A-	Stable	Pennsylvania
		Highmark Health		a	Stable	a-	Stable	
⊕	H	United Concordia Dental Plans Inc	065705	A	Stable	A-	Stable	Maryland
		Highmark Health		a	Stable	a-	Stable	
⊕	H	United Concordia Dental Plans of CA	064008	A	Stable	A-	Stable	California
		Highmark Health		a	Stable	a-	Stable	
⊕	H	United Concordia Dental Plans of PA Inc	064353	A	Stable	A-	Stable	Pennsylvania
		Highmark Health		a	Stable	a-	Stable	
⊕	H	United Concordia Insurance Co of NY	060255	A	Stable	A-	Stable	New York
		Highmark Health		a	Stable	a-	Stable	
⊕	H	United Concordia Insurance Company	008651	A	Stable	A-	Stable	Arizona
		Highmark Health		a	Stable	a-	Stable	
New	H	United Security Assurance Company of PA	001850	C-	Stable	NR		Pennsylvania
		Coventry Resources Corp.		ccc-	Stable	nr		
⊕	H	UnitedHealthcare Benefits of Texas Inc	068706	A	Stable	A	Stable	Texas
		UnitedHealth Group Incorporated		a+	Stable	a	Stable	
⊕	H	UnitedHealthcare Community Plan	064439	A	Stable	A	Stable	Michigan
		UnitedHealth Group Incorporated		a+	Stable	a	Stable	
⊕	H	UnitedHealthcare Community Plan of Ohio	064874	A	Stable	A	Stable	Ohio
		UnitedHealth Group Incorporated		a+	Stable	a	Stable	
⊕	H	UnitedHealthcare Ins of the River Valley	064827	A	Stable	A	Stable	Illinois
		UnitedHealth Group Incorporated		a+	Stable	a	Stable	
⊕	H	UnitedHealthcare Insurance Co of IL	060071	A	Stable	A	Stable	Illinois
		UnitedHealth Group Incorporated		a+	Stable	a	Stable	
⊕	H	UnitedHealthcare Insurance Co of NY	060108	A	Stable	A	Stable	New York
		UnitedHealth Group Incorporated		a+	Stable	a	Stable	

Rating Action: (⊕) Upgrade; (–) Downgrade; (New) Initial Rating; (⚑) Under Review; (⇅) Change in Outlook; (⇥) Rating Withdrawal; (☑) Rating Affirmation.
Outlook: Positive, Negative, Stable. **Implications:** Positive, Negative, Developing. **Business Type: P** = Property/Casualty (Non-Life); **L** = Life; **H** = Health; **T** = Title; **C** = Composite.

Rating Action	Business Type	Company Name/ *Ultimate Parent*	AMB#	Current FSR ICR	Current Outlook/ Implications	Previous FSR ICR	Previous Outlook/ Implications	Domicile
U.S., CANADA AND BERMUDA LIFE/HEALTH (CONTINUED)								
Upgrade	H	UnitedHealthcare Insurance Company *UnitedHealth Group Incorporated*	008290	A a+	Stable Stable	A a	Stable Stable	Connecticut
Upgrade	H	UnitedHealthcare Life Insurance Company *UnitedHealth Group Incorporated*	007771	A a+	Stable Stable	A a	Stable Stable	Wisconsin
Upgrade	H	UnitedHealthcare of Alabama Inc *UnitedHealth Group Incorporated*	068500	A a+	Stable Stable	A a	Stable Stable	Alabama
Upgrade	H	UnitedHealthcare of Arizona Inc *UnitedHealth Group Incorporated*	068847	A a+	Stable Stable	A a	Stable Stable	Arizona
Upgrade	H	UnitedHealthcare of Arkansas Inc *UnitedHealth Group Incorporated*	068914	A a+	Stable Stable	A a	Stable Stable	Arkansas
Upgrade	H	UnitedHealthcare of Colorado Inc *UnitedHealth Group Incorporated*	068848	A a+	Stable Stable	A a	Stable Stable	Colorado
Upgrade	H	UnitedHealthcare of Florida Inc *UnitedHealth Group Incorporated*	068782	A a+	Stable Stable	A a	Stable Stable	Florida
Upgrade	H	UnitedHealthcare of Georgia Inc *UnitedHealth Group Incorporated*	068893	A a+	Stable Stable	A a	Stable Stable	Georgia
Upgrade	H	UnitedHealthcare of Illinois Inc *UnitedHealth Group Incorporated*	068532	A a+	Stable Stable	A a	Stable Stable	Illinois
Upgrade	H	UnitedHealthcare of Kentucky Ltd *UnitedHealth Group Incorporated*	068690	A a+	Stable Stable	A a	Stable Stable	Kentucky
Upgrade	H	UnitedHealthcare of Louisiana Inc *UnitedHealth Group Incorporated*	068661	A a+	Stable Stable	A a	Stable Stable	Louisiana
Upgrade	H	UnitedHealthcare of Mississippi Inc *UnitedHealth Group Incorporated*	060118	A a+	Stable Stable	A a	Stable Stable	Mississippi
Upgrade	H	UnitedHealthcare of New England Inc *UnitedHealth Group Incorporated*	068891	A a+	Stable Stable	A a	Stable Stable	Rhode Island
Upgrade	H	UnitedHealthcare of New York Inc *UnitedHealth Group Incorporated*	068856	A a+	Stable Stable	A a	Stable Stable	New York
Upgrade	H	UnitedHealthcare of North Carolina Inc *UnitedHealth Group Incorporated*	068572	A a+	Stable Stable	A a	Stable Stable	North Carolina
Upgrade	H	UnitedHealthcare of Ohio Inc *UnitedHealth Group Incorporated*	068580	A a+	Stable Stable	A a	Stable Stable	Ohio
Upgrade	H	UnitedHealthcare of Oklahoma Inc *UnitedHealth Group Incorporated*	068582	A a+	Stable Stable	A a	Stable Stable	Oklahoma
Upgrade	H	UnitedHealthcare of Oregon Inc *UnitedHealth Group Incorporated*	068707	A a+	Stable Stable	A a	Stable Stable	Oregon
Upgrade	H	UnitedHealthcare of Pennsylvania Inc *UnitedHealth Group Incorporated*	064104	A a+	Stable Stable	A a	Stable Stable	Pennsylvania
Upgrade	H	UnitedHealthcare of Texas Inc *UnitedHealth Group Incorporated*	068841	A a+	Stable Stable	A a	Stable Stable	Texas
Upgrade	H	UnitedHealthcare of the Mid-Atlantic *UnitedHealth Group Incorporated*	068987	A a+	Stable Stable	A a	Stable Stable	Maryland
Upgrade	H	UnitedHealthcare of the Midlands Inc *UnitedHealth Group Incorporated*	068892	A a+	Stable Stable	A a	Stable Stable	Nebraska
Upgrade	H	UnitedHealthcare of the Midwest Inc *UnitedHealth Group Incorporated*	068560	A a+	Stable Stable	A a	Stable Stable	Missouri
Upgrade	H	UnitedHealthcare of Utah, Inc. *UnitedHealth Group Incorporated*	068770	A a+	Stable Stable	A a	Stable Stable	Utah
Upgrade	H	UnitedHealthcare of Washington Inc *UnitedHealth Group Incorporated*	068591	A a+	Stable Stable	A a	Stable Stable	Washington
Upgrade	H	UnitedHealthcare of Wisconsin Inc *UnitedHealth Group Incorporated*	068824	A a+	Stable Stable	A a	Stable Stable	Wisconsin
Upgrade	H	UnitedHealthcare Plan of River Valley *UnitedHealth Group Incorporated*	068702	A a+	Stable Stable	A a	Stable Stable	Illinois
Rating Withdrawal	L	Voya Insurance and Annuity Company* *Voya Financial Inc.*	008388	NR nr		A a+	Stable Stable	Iowa
Rating Affirmation	L	Voya Retirement Insurance and Annuity Co *Voya Financial Inc.*	006895	A a+	Stable Stable	A u a+ u	Developing Developing	Connecticut
Upgrade	L	Western Life Assurance Company *Wawanesa Mutual Insurance Company*	066802	A a	Stable Stable	A- a-	Stable Stable	Alberta
U.S., CANADA AND BERMUDA PROPERTY/CASUALTY								
Downgrade	P	American Country Insurance Company *Atlas Financial Holdings, Inc.*	002735	C ccc	Negative Negative	B u bb u	Negative Negative	Illinois

*Ratings were removed from under review as Au/a+u and affirmed as A/a+ on June 4, 2018. Ratings were withdrawn on June 4, 2018.

Rating Action: ( ) Upgrade; (—) Downgrade; (New) Initial Rating; ( ) Under Review; ( ) Change in Outlook; ( ) Rating Withdrawal; ( ) Rating Affirmation.
Outlook: Positive, Negative, Stable. **Implications:** Positive, Negative, Developing. **Business Type:** **P** = Property/Casualty (Non-Life); **L** = Life; **H** = Health; **T** = Title; **C** = Composite.

Rating Action	Business Type	Company Name/ *Ultimate Parent*	AMB#	Current FSR ICR	Current Outlook/ Implications	Previous FSR ICR	Previous Outlook/ Implications	Domicile
U.S., CANADA AND BERMUDA PROPERTY/CASUALTY (CONTINUED)								
–	P	American Service Insurance Company, Inc. *Atlas Financial Holdings, Inc.*	001777	C ccc	Negative Negative	B u bb u	Negative Negative	Illinois
⇅	P	American Summit Insurance Company *Hilltop Holdings Inc.*	000722	A a	Negative Negative	A a	Stable Stable	Texas
New	P	Auto-Owners Specialty Insurance Company *Auto-Owners Insurance Company*	013106	A- a-	Stable Stable	NR nr		Delaware
New	P	Blue Ridge Indemnity Company *Tiptree Inc.*	020578	A- a-	Stable Stable	NR nr		Wisconsin
–	P	California Casualty & Fire Insurance Co *California Casualty Indemnity Exch*	003576	B++ bbb+	Stable Negative	A- a-	Negative Negative	California
–	P	California Casualty General Ins Co of OR *California Casualty Indemnity Exch*	003809	B++ bbb+	Stable Negative	A- a-	Negative Negative	Oregon
–	P	California Casualty Indemnity Exch *California Casualty Indemnity Exch*	000222	B++ bbb+	Stable Negative	A- a-	Negative Negative	California
–	P	California Casualty Insurance Company *California Casualty Indemnity Exch*	003336	B++ bbb+	Stable Negative	A- a-	Negative Negative	Oregon
⊕	P	CAMICO Mutual Insurance Company	010748	B++ bbb	Stable Stable	B+ bbb-	Positive Positive	California
⇅	P	Center Mutual Insurance Company	003712	A- a-	Stable Stable	A- a-	Positive Positive	North Dakota
⊕	P	Dakota Fire Insurance Company *Employers Mutual Casualty Company*	000311	A a+	Stable Stable	A a	Stable Stable	North Dakota
⊕	P	Discovery Insurance Company	011631	B bb+	Stable Stable	B bb	Stable Stable	North Carolina
⊕	P	EMC Property & Casualty Company *Employers Mutual Casualty Company*	002039	A a+	Stable Stable	A a	Stable Stable	Iowa
⊕	P	EMCASCO Insurance Company *Employers Mutual Casualty Company*	002160	A a+	Stable Stable	A a	Stable Stable	Iowa
⊕	P	Employers Mutual Casualty Company *Employers Mutual Casualty Company*	002161	A a+	Stable Stable	A a	Stable Stable	Iowa
⊕	P	Farmers Insurance Company of Flemington	004489	B++ bbb+	Stable Stable	B++ bbb	Stable Stable	New Jersey
–	P	Gateway Insurance Company *Atlas Financial Holdings, Inc.*	010621	C ccc	Negative Negative	B u bb u	Negative Negative	Missouri
–	P	Global Liberty Insurance Co of NY *Atlas Financial Holdings, Inc.*	012498	C++ b	Negative Negative	B+ u bbb- u	Negative Negative	New York
⇥	P	Golden Insurance Company, A RRG** *Gerald Thompson*	012492	NR nr		C++ b	Negative Negative	North Carolina
⊕	P	Illinois EMCASCO Insurance Company *Employers Mutual Casualty Company*	003638	A a+	Stable Stable	A a	Stable Stable	Iowa
⚑	P	MAPFRE Insurance Company of New York *Fundación MAPFRE*	000869	A u a u	Negative Negative	A a	Stable Stable	New York
⊕	P	Midrox Insurance Company *Mid-Hudson/Claverack Cooperative Cos*	010875	A- a-	Stable Stable	B+ u bbb- u	Positive Positive	New York
⇅	P	National Lloyds Insurance Company *Hilltop Holdings Inc.*	003238	A a	Negative Negative	A a	Stable Stable	Texas
⇅	P	Natl Independent Truckers Ins Co, A RRG	075492	B++ bbb	Stable Positive	B++ bbb	Stable Stable	South Carolina
⇅	C	Partner Reinsurance Company Ltd *EXOR N.V.*	084424	A a+	Positive Positive	A a+	Stable Stable	Bermuda
⇅	P	Partner Reinsurance Company of the U.S. *EXOR N.V.*	002671	A a+	Positive Positive	A a+	Stable Stable	New York
⇅	P	PartnerRe America Insurance Company *EXOR N.V.*	012329	A a+	Positive Positive	A a+	Stable Stable	Delaware
⇥	P	Progressive Freedom Insurance Company *Progressive Corporation*	011441	NR nr		A+ aa	Stable Stable	Ohio
⊕	P	Rural Mutual Insurance Company	002445	A+ aa-	Stable Stable	A a+	Positive Positive	Wisconsin

**Ratings were downgraded to C++/b from B-/bb- on June 12, 2018. Ratings were withdrawn on June 12, 2018.

Rating Action: (⊕) Upgrade; (–) Downgrade; (New) Initial Rating; (⚑) Under Review; (⇅) Change in Outlook; (⇥) Rating Withdrawal; (☑) Rating Affirmation.
Outlook: Positive, Negative, Stable. **Implications:** Positive, Negative, Developing. **Business Type: P** = Property/Casualty (Non-Life); **L** = Life; **H** = Health; **T** = Title; **C** = Composite.

Department

Rating Action	Business Type	Company Name/ *Ultimate Parent*	AMB#	Current FSR ICR	Current Outlook/ Implications	Previous FSR ICR	Previous Outlook/ Implications	Domicile
U.S., CANADA AND BERMUDA PROPERTY/CASUALTY (CONTINUED)								
⇅	P	Southern Mutual Church Insurance Company	001847	A- a-	Positive Positive	A- a-	Stable Stable	South Carolina
⊕	P	Union Insurance Company of Providence *Employers Mutual Casualty Company*	002346	A a+	Stable Stable	A a	Stable Stable	Iowa
EUROPE, MIDDLE EAST AND AFRICA								
⊕	C	Al Ittihad Al Watani Soc Gen Asr Proche *Nasco Insurance Group Limited*	090592	B bb+	Positive Positive	B bb	Stable Stable	Lebanon
⊕	C	Bilbao, Compañia Anónima de Seg y Reas *INOC, S.A.*	083556	A a+	Stable Stable	A a	Stable Stable	Spain
New	P	ERIKA Försäkringsaktiebolag (publ) *Universal Care S.à.r.l.*	087809	A- a-	Stable Stable	NR nr		Sweden
⚑	P	INSURANCE COMPANY OF GAZ INDUSTRY SOGAZ *INSURANCE COMPANY OF GAZ INDUSTRY SOGAZ*	078919	B++ u bbb u	Developing Developing	B++ bbb	Stable Stable	Russia
⇥	P	Lloyd's Synd 1225 AEGIS Managing Agnc	048312	NR nr		A a+	Stable Stable	United Kingdom
⇅	C	Orient Insurance PJSC *Al Futtaim Private Company LLC*	078593	A a	Stable Positive	A a	Stable Stable	United Arab Emirates
⇅	C	Partner Reinsurance Europe SE *EXOR N.V.*	078853	A a+	Positive Positive	A a+	Stable Stable	Ireland
⇅	P	PartnerRe Ireland Insurance DAC *EXOR N.V.*	088621	A a+	Positive Positive	A a+	Stable Stable	Ireland
⊕	C	Plus Ultra Seg Gen y Vida SA de Seg Reas *INOC, S.A.*	086543	A a+	Stable Stable	A a	Stable Stable	Spain
⊕	C	Seguros Catalana Occidente, S.A. *INOC, S.A.*	084142	A a+	Stable Stable	A a	Stable Stable	Spain
⇥	P	Standard Insurance Company JSC	093079	NR nr		C++ b+	Stable Stable	Kazakhstan
ASIA PACIFIC								
—	P	Capital General Insurance Company Ltd *Capital Insurance Group Limited*	092953	C++ u b+ u	Negative Negative	B- bb-	Positive Positive	Papua New Guinea
—	L	Capital Life Insurance Company Limited *Capital Insurance Group Limited*	092954	C- u cc u	Negative Negative	B- bb-	Positive Positive	Papua New Guinea
New	P	Union Insurance Company Limited	078994	A- a-	Stable Stable	NR nr		Taiwan
CARIBBEAN AND LATIN AMERICA								
⊕	P	Active Capital Reinsurance, Ltd. *Pine Holdings Corp.*	093065	A- a-	Stable Stable	B++ bbb+	Stable Stable	Barbados
New	L	AmFirst Life Insurance Company, I.I. *Wheaton Management, LLC*	062231	A- a-	Stable Stable			Puerto Rico
⇅	L	Knighthead Annuity & Life Assurance Co *Knighthead Holdings Ltd.*	093754	B++ bbb+	Positive Positive	B++ bbb+	Stable Stable	Cayman Islands
—	P	One Alliance Insurance Corporation *Oswaldo Karam*	022389	B bb+	Stable Stable	B+ u bbb- u	Negative Negative	Puerto Rico

Holding Companies

Rating Action	Company Name	AMB#	Current ICR	Current Outlook/ Implications	Previous ICR	Previous Outlook/ Implications	Domicile
—	Atlas Financial Holdings, Inc.	052818	c	Negative	b- u	Negative	Cayman Islands
⊕	EMC Insurance Group Inc	058358	bbb+	Stable	bbb	Stable	Iowa
☑	Hartford Life Inc	058047	bbb-	Stable	bbb- u	Developing	Delaware
⇅	PartnerRe Ltd	058444	bbb+	Positive	bbb+	Stable	Bermuda
⊕	UnitedHealth Group Incorporated	058106	a-	Stable	bbb+	Stable	Minnesota
☑	Voya Financial Inc.	050817	bbb+	Stable	bbb+ u	Developing	Delaware
New	WT Holdings Inc	052484	bbb-	Stable			Tennessee

Rating Action: (⊕) Upgrade; (—) Downgrade; (New) Initial Rating; (⚑) Under Review; (⇅) Change in Outlook; (⇥) Rating Withdrawal; (☑) Rating Affirmation.
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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 insurance companies that are publicly placed under a significant form of regulatory supervision, control or restraint - including cease and desist orders, conservatorship or rehabilitation, but not liquidation - that prevents conduct of normal ongoing insurance operations; an impaired insurer.
F	Status assigned to insurance companies that are publicly placed in liquidation by a court of law or by a forced liquidation; an impaired insurer.
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 A.M. Best.

Rating Disclosure – Use and Limitations

A Best's Credit Rating (BCR) is a forward-looking independent and objective opinion regarding an insurer's, issuer's or financial obligation's relative creditworthiness. The opinion represents a comprehensive analysis consisting of a quantitative and qualitative evaluation of balance sheet strength, operating performance, business profile and enterprise risk management or, where appropriate, the specific nature and details of a security. Because a BCR is a forward-looking opinion as of the date it is released, it cannot be considered as a fact or guarantee of future credit quality and therefore cannot be described as accurate or inaccurate. A BCR is a relative measure of risk that implies credit quality and is assigned using a scale with a defined population of categories and notches. Entities or obligations assigned the same BCR symbol developed using the same scale, should not be viewed as completely identical in terms of credit quality. Alternatively, they are alike in category (or notches within a category), but given there is a prescribed progression of categories (and notches) used in assigning the ratings of a much larger population of entities or obligations, the categories (notches) cannot mirror the precise subtleties of risk that are inherent within similarly rated entities or obligations. While a BCR reflects the opinion of A.M. Best Rating Services, Inc. (A.M. Best) of relative creditworthiness, it is not an indicator or predictor of defined impairment or default probability with respect to any specific insurer, issuer or financial obligation. A BCR is not investment advice, nor should it be construed as a consulting or advisory service, as such; it is not intended to be utilized as a recommendation to purchase, hold or terminate any insurance policy, contract, security or any other financial obligation, nor does it address the suitability of any particular policy or contract for a specific purpose or purchaser. Users of a BCR should not rely on it in making any investment decision; however, if used, the BCR must be considered as only one factor. Users must make their own evaluation of each investment decision. A BCR opinion is provided on an "as is" basis without any expressed or implied warranty. In addition, a BCR may be changed, suspended or withdrawn at any time for any reason at the sole discretion of A.M. Best.

Financial Size Category

To enhance the usefulness of ratings, A.M. Best assigns each rated (A++ through D) insurance company a Financial Size Category (FSC). The FSC is based on adjusted policyholders' surplus (PHS) in U.S. dollars and may be impacted by foreign currency fluctuations. The FSC is designed to provide a convenient indicator of the size of a company in terms of its statutory surplus and related accounts.

Many insurance buyers only want to consider buying insurance coverage from companies that they believe have sufficient financial capacity to provide the necessary policy limits to insure their risks. Although companies utilize reinsurance to reduce their net retention on the policy limits they underwrite, many buyers still feel more comfortable buying from companies perceived to have greater financial capacity.

Class	Adj. PHS ($ Millions)	Class	Adj. PHS ($ Millions)
I	Less than 1	IX	250 to 500
II	1 to 2	X	500 to 750
III	2 to 5	XI	750 to 1,000
IV	5 to 10	XII	1,000 to 1,250
V	10 to 25	XIII	1,250 to 1,500
VI	25 to 50	XIV	1,500 to 2,000
VII	50 to 100	XV	2,000 or greater
VIII	100 to 250		

BCRs are distributed via the A.M. Best website at *www.ambest.com*. For additional information regarding the development of a BCR and other rating-related information and definitions, including outlooks, modifiers, identifiers and affiliation codes, please refer to the report titled "Understanding Best's Credit Ratings" available at no charge on the A.M. Best website. BCRs are proprietary and may not be reproduced without permission.

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BEST'S ISSUER CREDIT RATING GUIDE – (ICR)

A Best's Issuer Credit Rating (ICR) is an independent opinion of an entity's ability to meet its ongoing financial obligations and can be issued on either a long- or short-term basis. A long-term ICR is an opinion of an entity's ability to meet its ongoing senior financial obligations, while a short-term ICR is an opinion of an entity's ability to meet its ongoing financial obligations with original maturities generally less than one year. An ICR is an opinion regarding the relative future credit risk of an entity. Credit risk is the risk that an entity may not meet its contractual financial obligations as they come due. An ICR does not address any other risk. In addition, an ICR is not a recommendation to buy, sell or hold any securities, contracts or any other financial obligations, nor does it address the suitability of any particular financial obligation for a specific purpose or purchaser. An ICR may be displayed with a rating identifier or modifier that denotes a unique aspect of the opinion.

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 under a significant form of regulatory supervision, control or restraint - including cease and desist orders, conservatorship or rehabilitation, but not liquidation - that prevents conduct of normal ongoing operations; an impaired entity.
f	Status assigned to insurers that are publicly placed in liquidation by a court of law or by a forced liquidation; an impaired entity.
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 A.M. Best.

Rating Disclosure: Use and Limitations

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JUST THE BEGINNING

As Starr Companies gears up for its centennial anniversary next year, CEO Greenberg explains how he aims to build the next global insurance powerhouse.

by Lee McDonald

As the 100th anniversary of Starr Companies approaches, A.M. BestTV sat down with Maurice R. "Hank" Greenberg, the company's chairman and chief executive officer to discuss the organization and how he aims to build the next global insurance powerhouse.

Starr traces its history back to December 1919, when Cornelius Vander Starr founded an insurance enterprise in Shanghai, China.

Starr Companies, the worldwide marketing name for the services offered by the operating insurance and travel assistance companies and subsidiaries of Starr International Co. Inc. and for the investment business of C.V. Starr & Co. Inc. formed Starr International in 1943 in Panama. During the 1940s, Starr International became the parent company to all of the overseas companies.

Greenberg worked for C.V. Starr and was CEO of American International Group from 1967 to 2005. AIG was created by C.V. Starr & Co. Inc.

Following is an edited transcript of the interview.

Photo by Frank Vowinkel

Why don't we start with the big picture? Cornelius Vander Starr was a fascinating man. You knew him, worked with him very closely over the years. He established a unique company, a unique organization, a unique place in the world for the time. It's now 100 years. How does what he started carry on today in the Starr Companies in terms of its organization and values?

The culture, number one. Start with that. A very international outlook, number two. Attracting the best people and underwriters for the company.

When you have to explain the Starr organization today, how do you describe it?

The Starr Companies were founded in China, number one. Starr went to China after [World War I] to try and find a direction and a future. He did. A couple of things he did differently. He insured Chinese companies. The Brits and the French who were there would never touch a Chinese company.

He established himself among the Chinese elite and good business people, that he was trustworthy and that he can help them. He did. He expanded to Southeast Asia, almost every country, in the Philippines particularly. Back here he had very little on the insurance side. He represented some other companies as well as his own. That's a fundamental part of the company.

When I joined Starr, it was to run a domestic company and to build simultaneously a worldwide business for accident and health, which I did. Both were successful. When I organized AIG, I succeeded him. AIG was not owned by C.V. Starr, it was a public company. We went public. We had a market value

Lee McDonald is group vice president A.M. Best Co. He can be reached at *lee.mcdonald@ambest.com.*

of $300 million. When I left it was $180 billion, the largest insurance company in history.

It was.

It was, until somebody in Albany wanted to become governor. That's the history, roughly.

Let's move to today with Starr. Let's leave China aside for a second. You're still active in world markets, particularly in Asia. Where are you active in Asia today and how do you see that area developing in today's perspective?

We're virtually all over Asia. We have a small business in Japan but it's growing. We're in Hong Kong. We're in the Philippines. We're in Malaysia. We're in Singapore. We're soon going to be in Thailand. We're in Australia. We've covered quite well.

What's your assessment of that area? Is it growing the way you expected it to?

Some countries, yes. Some countries, no.

Any of them particularly attractive at this point?

They're all attractive to me. Asia is a growing area of the world.

Let's move to China. You have a long history in China. You were one of the first business, and certainly insurance, people to get in there and open things up, make a lot of progress. Where do things stand today for Starr in China and where do you see them headed?

It's heading very good. Our business is quite good. We have two businesses. The insurance business, property/casualty, mostly commercial business and a very good investment team separate apart from the insurance side.

Do you see the Chinese market as open to innovation for the things that you're trying to do or would you consider it to be a slow-moving market, resistant?

It depends on the company and who you are.

Do you see yourself as insuring non-Chinese risks in China or Chinese risk coming out?

Both, if they pass muster from an underwriting point of view.

This is a very interesting time of the year because of all the trade activity that's been going on with China.

I'm aware of that.

What's your take on that? What do you think the outcome will be?

I think that we need patience and I hope we can solve it over a period of time. Both sides would lose if we didn't. My guess is it will be resolved.

Do you think mostly they're just negotiating at this point or do you think it might have any long-term impact?

If you make major changes, it will have an impact on somebody.

The tariffs and things like that are based around traditional industries. Do you think insurance will be affected by any of this?

Not that I'm aware of. China has already said some time ago that they would open up the insurance industry, both property/casualty and life.

You expect that to continue?

I do.

One of the things that you alluded to, and we won't go into the whole New York thing, but there's the idea of regulatory risk. Since you have such a broad view of the world, how is regulation changing? Is it becoming more difficult to ensure an environment like that or easier?

You're talking about the United States or any place?

Worldwide?

You're painting with too broad a brush.

Let's stick with Asia.

Asia is fine. I don't see the changes being harmful.

And that's true in China as well?

In China, at this moment, it's a little more difficult unless you've been there for a long time. You know your way around. I would say that China has loosened up quite a bit though in the last couple of years.

The Starr Companies, you are at 100 years. What do you see ahead for this company? Where do you want it to go? What things is it not in today that you want it to be in?

We're going to keep growing. That's the idea. We'd like to do what we did in AIG, become the largest insurance company in history. BR

A.M. BestTV

Go to *bestreview.com* to watch the interview.

Department

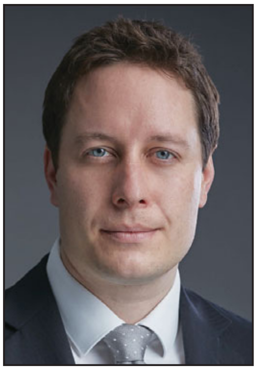
Industry Updates

For Marine Consultant, Spread of Cyber At Sea Means Multiplication of Risk

The spread of cyber technology among the world's merchant fleets has multiplied the headaches of marine insurers, according to Giles Hunnisett, a master mariner with U.K. consultants Waves Group.

In pre-cyber days, Hunnisett told the Marine Insurance London conference, a collision at sea might have been traced back to the misreading of a chart.

Today, the worries of ship operators and insurers are on a bigger scale: A bug affecting a large number of vessels, for instance, could bring a widespread failure of navigational systems in an important an international shipping lane and trigger massive business interruption claims.



"Imagine a bug or a malicious attack that gets into a thousand of those ships."

Giles Hunnisett
Waves Group

It is possible for up to 20,000 vessels to have similar software, Hunnisett said. "Imagine a bug or a malicious attack that gets into a thousand of those ships," he said.

Charles Fernandez, head of marine liability and hull at Lloyd's specialty insurer Canopius, said cyberrisk falls into three main categories: physical loss or damage to the insured asset; business interruption, and the loss or theft of data. A data loss claims might cover the "hugely expensive" restoration of a disabled computer system, he suggested.

"We all need to appreciate that cyberrisk is increasing, and increasing every day." Fernandez said.

One question is where to place these risks: into the reinsurance market, say, or the cyber market, Fernandez said. He said he believes business interruption risk should go into the marine market, while loss of data should be put into the cyber market.

Fernandez said there is uncertainty in the insurance market about the pricing of cyberrisk— particularly in regard to the likely frequency and severity of untoward incidents. He said the insurance industry needs to put these questions to cyber industry experts and develop a sense of the potential for a single event to send ripples across the economy.

The insurers also need to work together to tackle the issue of aggregation, Fernandez said.

Monica Tigleanu, a partner in cyber, content and new technology risks at specialist insurance broker JLT Specialty Ltd., said clients are looking for certainty in relation to their coverages from both the marine and cyber markets.

The level of cybersecurity knowledge varies from client to client, Tigleanu said. "Very large marine clients are very aware of the need to invest in that area," she said. "And some of our smaller ones don't believe they have a risk."

Tigleanu said cyberrisk carries a geopolitical element. She pointed to what she said have been determined efforts by such nations as Russia and China to conduct cyber espionage.

Hunnisett, whose qualification as a master mariner entitles him to serve as a captain on any commercial vessel in the world, said he is worried the traditional skills that seafarers have developed have not kept pace with the demands of technological change.

"The operational concerns are safety based," Hunnisett said during a panel discussion on the cyberthreat to marine insurance. "The main concern is whether the ship will crash."

The connectivity in the maritime sector creates its own pressures, Hunnisett told the audience. "if somebody moves a buoy somewhere in the world that needs to be updated in every ship," he said.

—Robert O'Connor

Jury Awards, Capacity Impede Commercial Auto Line Improvements, Observers Say

Commercial automobile insurers working to improve profitability are hampered by outside jury awards, capacity and other external factors, according to industry observers.

Insurance carriers are raising rates in the low single-digits on accounts with good loss experience, in order to remain competitive, according to Lockton Cos. Vice President Todd Reiser. Accounts with substantial losses could see increases as high as 30% on commercial auto up through excess and umbrella coverages, along with increased retention and deductibles.

Todd Reiser

Low pricing and other factors played into the challenged environment, said Willis Towers Watson North American's head of casualty brokerage Jonathon Drummond.

"Eight-to-nine-figure judgments are almost the norm," he said. The industry was late to react to the severity in claims and rate adequacy in commercial auto, Reiser said. "The prolonged soft market didn't help. Now it's a target of the plaintiff's bar."

The first $10 million in commercial auto coverage is now considered a working layer, the next $10 million is pressured and it's all severity driven, said Reiser. The trucking industry continues to see verdicts ranging from $20 million to $40 million.

The number of U.S. auto fatalities declined for decades to a low of 32,479 in 2011, according to the National Highway Transportation Safety Administration. It increased to 37,461 in 2016 and was accompanied by rising loss-costs.

Juries are holding commercial drivers—whether behind the wheel of a tractor-trailer or a box truck—to higher duty of care standards when deciding awards, said Drummond.

He thinks commercial auto is probably the most challenged line for property/casualty writers. "The worst is kind of behind us. It's not necessarily improving, but it's keeping pace" with loss trends.

Reiser said technology is a main answer to the severity issue, said Reiser. "If you don't have a plan for how to implement this technology it's almost like you're in a different bucket from an underwriting perspective."

Lockton works extensively with large fleets of 100 or more power units, where collision avoidance technology is making a "huge impact" on severity, said Reiser. "What would have been a catastrophic rear-end collision is not happening, nor is a 5 mph" accident. As the ease of telematics improves and the cost of technology declines, it removes a barrier to entry for commercial truckers, said Drummond. Previously, retrofitting vehicles was disruptive, causing down time.

While technology-driven increases in repair costs have impacted personal auto insurers, Reiser said its not an issue in large commercial because most fleets self-insure physical damage.

The commercial auto insurance market's $9.7 billion in underwriting losses from 2012 to 2016 are likely to continue as losses have outpaced rising premiums, according to Diane Injic, Verisk director of commercial auto underwriting.

Frequency also rose rapidly after the recession ended in 2010-2011, said Jim Davidson, Verisk commercial auto actuarial director, while commercial auto insurers lowered rates an additional two years.

Industrywide, the combined ratio in commercial lines worsened 2.8 points last year, compared with 2016, according to a *Best's Special Report,* although compounded rate increases and underwriting changes have improved the line in recent years.

—Renée Kiriluk-Hill

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Chairman of UK Financial Conduct Authority Warns of Threat From Big Data

The ability of corporations to collect and analyze vast amount of personal data on their customers has created a range of moral and technical challenges for regulators, according to Charles Randell, chairman of the U.K. Financial Conduct Authority.

In a speech in London, Randell pointed to the growing fear of "big data" and the creation of an "algocracy," a system in which business decisions are effectively made by algorithms.

"We need to anticipate the fundamental questions which big data, artificial intelligence and behavioral science present, and make sure that we innovate ethically to shape the answers," said Randell, who is also chairman of the United Kingdom's Payment Systems Regulator.

The issue of big data is made more serious by the control of enormous "datasets" by a small number of large corporations, Randell said.

These databases will grow even larger, as a result of the ability of personal devices to capture and relay information, he said.

Artificial intelligence is improving the ability to mine data, Randell said.

"Whereas in the past firms could only target broad groups of consumers, these patterns can now be turned into conclusions about us as individuals," he said. "They can make predictions about our future behavior, and then decide which products and services we should be offered and on which terms."

At the same time, Randell said the behavioral science can allow businesses to predict actions and nudge potential customers in certain directions. "Some nudges may be in consumers' interests, as with auto-enrollment for pensions," he said. "But there is the potential for them to be used against our interests too."

As the use of big data by corporations becomes central to people's lives, Randell said, "significant questions [have emerged] about the adequacy of global frameworks for competition and regulation."

Algorithms can point online customers to insurance products, decide who gets a mortgage, or who gets a job interview, Randell said. "Right now," he told the audience, "your partner may be using an algorithm to find someone better."

Randell recalled *The Prisoner*, the 1960s television series in which Patrick McGoohan played the title role, aka "No. 6," who was constantly manipulated by forces he could neither trust nor fathom.

Randell also offered a message of optimism, based on the advances science has already brought. He mentioned the improved detection of crime and the easier availability of financial expertise. He also noted the worldwide reputation of the U.K. financial technology sector. "But there is no room for complacency," he said.

—Robert O'Connor

Munich Re, One Insurance Launch Venture

One Insurance, a European digital insurer, launched a joint venture with Munich Re called One Coach, which uses encryption technology and factors such as work time, sleep movements and location to craft insurance coverage shaped around customer conditions.

Through One Coach, customers can benefit from bonus points at year end, and in its next step, One will provide modular short-term insurance based on the individual lifestyle and location of a given customer, the company said in a statement. "Our strategic alliance allows for usage of data entirely unknown to the insurance industry as yet," said Tobias Sonndorfer, executive director Munich Re, in a statement. "Combine this with the power of an independent, fully digital insurer, and you understand the impact our joint venture will have in changing the insurance business as a whole."


Tobias Sonndorfer

"One has an insurance product architecture under construction which will push experiences ahead of the entire market regarding features like adjustable short-term coverage, micro modularization of risks and real-time utilization of IoT-data," Stephan Ommerborn, chief executive officer and co-founder of One Insurance, said.

—David Pilla

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On High Alert

A spate of high-profile sexual misconduct incidents at U.S. colleges and universities is shining a spotlight on the need for insurance and risk management.

by Lori Chordas

Michigan State is reportedly on the hook for a $500 million settlement with more than 300 women who claimed former Michigan State and USA Gymnastics physician Larry Nassar sexually molested them. Nassar is currently serving a 40-to-175-year sentence.

The university was accused of ignoring or dismissing complaints about the ex-physician dating as far back as the 1990s.

In 2012, Penn State University paid $109 million to settle claims by victims who accused the university's former football coach Jerry Sandusky of molesting several boys he met through his charity, The Second Mile.

Reports of sexual molestation and harassment at higher education institutions continue to grab headlines.

Earlier this year, more than 50 women alleged sexual abuse against a former campus doctor at the University of Southern California.

Incidents like those have college and university administrators and boards on high alert. They are formulating or re-evaluating their enterprisewide risk management and insurance plans to prevent and respond to sexual molestation and harassment allegations.

Insurers, too, are asking questions.

"They're wondering whether they are handling this exposure correctly, if they're asking the right questions, if the risk is more significant than they anticipated and are we pricing the risk correctly. At this stage, I don't believe we know the answers to those questions," said John McLaughlin, managing director in Arthur J. Gallagher's higher education practice.

Typically, claims related to bodily injury from any form of sexual molestation or harassment are covered under a school's general liability policy, he said. Most policies are subject to aggregate limits.

Some carriers opt to exclude the risk. Others offer individual policies as a separate cover. "There are no ISO forms that deal specifically with this risk, so carriers have to frame their coverage to address the issue," McLaughlin said.

United Educators is a liability insurance and risk management services firm for schools, colleges and universities. Its excess general liability policy offers limits of up to $40 million, along with worldwide coverage and access to a supplemental crisis response program available as part of a package. GLX can also provide defense and indemnity costs generated by sexual assault and abuse litigation, said Bryan Elie, vice president of underwriting at United Educators.

Earlier this year, USA Gymnastics, the national governing body for gymnastics, sued seven insurers for breach of contract. The organization alleged that the insurers hadn't provided a full defense or fully reimbursed USAG for defense costs in 10 lawsuits filed by women who said Nassar sexually abused them. According to the lawsuit, USAG had purchased multiple policies among several lines, including comprehensive general liability, directors and officers, and umbrella insurance policies.

One of the biggest risks to education institutions is a hit to their reputation. "I'm not sure of any insurance product that specifically covers a college or university's reputation," Elie said.

Good risk management processes can help identify where potential exposures exist, especially those involving minors, said Constance Neary, vice president of risk management at United Educators.

"Colleges and universities often don't even realize how many programs they have that involve minors—summer camps, music programs, science camps," she said. "That's why they need to continuously scan the landscape for potential problems. They also need to develop procedures to encourage reporting of misconduct and effectively respond and adjudicate allegations. In doing so, institutions increase the likelihood that victims are comfortable coming forward with a complaint," she said. BR

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